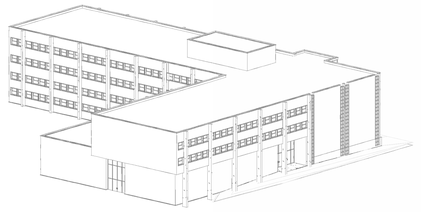
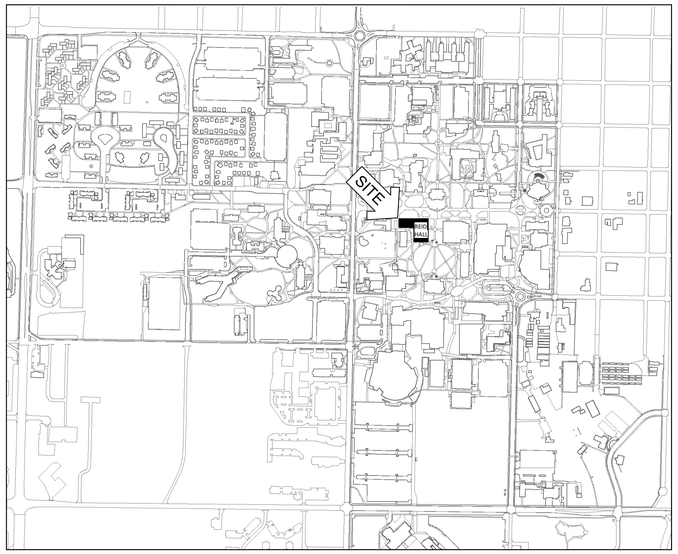
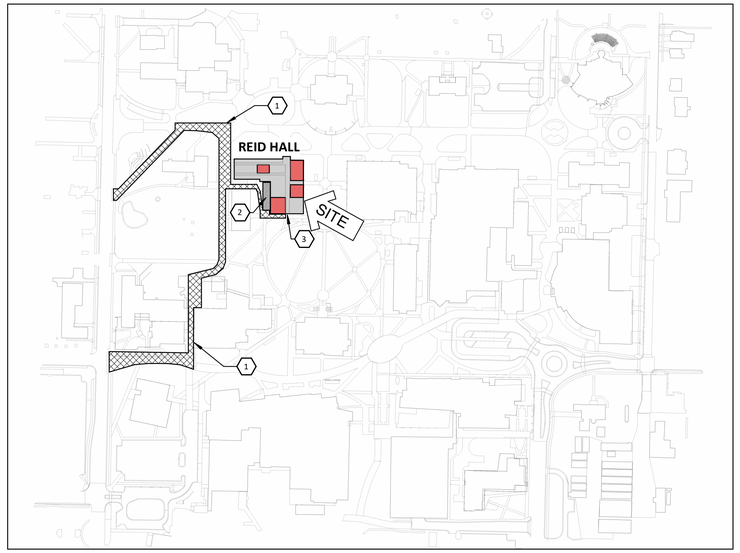
REID HALL CLASSROOM RENOVATION
MONTANA STATE UNIVERSITY

930 W GARFIELD ST.
REID HALL,
BOZEMAN, MONTANA 59717
PPA#: 25-1214





SITE VICINITY MAP



SITE LOCATION MAP

INDEX OF DRAWINGS

SHEET NUMBER	SHEET NAME
TITLE	
G-001	TITLE SHEET
G-011	CODE REVIEW
G-013	ACCESSIBILITY DETAILS
REMEDIATION	
REM01	SITE VICINITY MAP
REM02	ASBESTOS AND LBP REMEDIATION
ARCHITECTURAL	
A-001	ARCHITECTURAL TITLE SHEET
AD111	101/102 DEMO FLOOR PLAN
AD112	103 DEMO FLOOR PLAN ALT. #2
AD113	105 DEMO FLOOR PLAN ALT. #1
AD114	126 DEMO FLOOR PLAN ALT. #3
AD121	101/102 DEMO REFLECTED CEILING PLAN
AD122	103 DEMO REFLECTED CEILING PLAN ALT. #2
AD123	105 DEMO REFLECTED CEILING PLAN ALT. #1
AD124	126 DEMO REFLECTED CEILING PLAN ALT. #3
AD211	101/102 DEMO INTERIOR ELEVATIONS
AD212	103 DEMO INTERIOR ELEVATIONS ALT. #2
AD213	105 DEMO INTERIOR ELEVATIONS ALT. #1
AD214	126 DEMO INTERIOR ELEVATIONS ALT. #3
A-111	101/102 FLOOR PLAN
A-112	103 FLOOR PLAN ALT. #2
A-112S	103 SLAB PLAN
A-113	105 FLOOR PLAN ALT. #1
A-113S	105 SLAB PLAN
A-114	126 FLOOR PLAN ALT. #3
A-121	101/102 REFLECTED CEILING PLAN
A-122	103 REFLECTED CEILING PLAN ALT. #2
A-123	105 REFLECTED CEILING PLAN ALT. #1
A-124	126 REFLECTED CEILING PLAN ALT. #3
A-131	101/102 FINISH FLOOR PLAN
A-132	103 FINISH FLOOR PLAN ALT. #2
A-133	105 FINISH FLOOR PLAN ALT. #1
A-134	126 FINISH FLOOR PLAN ALT. #3
A-211	101/102 INTERIOR ELEVATIONS
A-212	103 INTERIOR ELEVATIONS ALT. #2
A-213	105 INTERIOR ELEVATIONS ALT. #1
A-214	126 INTERIOR ELEVATIONS ALT. #3
A-215	126 INTERIOR ELEVATIONS ALT. #4
A-521	FINISH DETAILS
A-601	DOOR AND WINDOW SCHEDULES

INDEX OF DRAWINGS

SHEET NUMBER	SHEET NAME
MECHANICAL	
M-121	101/102 HVAC CELING PLAN
M-122	103 REFLECTED CELING PLAN
M-123	105 REFLECTED CELING PLAN
M-124	126 REFLECTED CELING PLAN
M-601	MECHANICAL DETAILS & SCHEDULES
ELECTRICAL	
E000	ELECTRICAL, LIGHTING & TECHNOLOGY INDEX
E111	101/102 ELECTRICAL PLAN
E112	103 ELECTRICAL PLAN
E113	105 ELECTRICAL PLAN
E114	126 ELECTRICAL PLAN
E116	MAIN FLOOR ELECTRICAL PLAN
E501	103 & 105 ISOMETRIC VIEWS
E610	ELECTRICAL ONE-LINE DIAGRAMS
E620	ELECTRICAL PANEL SCHEDULES
EL111	101/102 LIGHTING PLAN
EL112	103 LIGHTING PLAN
EL113	105 LIGHTING PLAN
EL114	126 LIGHTING PLAN
EL620	LUMINAIRES & LIGHTING EQUIPMENT SCHEDULES
TECHNOLOGY	
T001	TECHNOLOGY INFORMATION
T111	101/102 TECHNOLOGY PLANS
T112	103 TECHNOLOGY PLAN
T113	105 TECHNOLOGY PLAN
T114	105 TECHNOLOGY CEILING PLAN
T115	126 TECHNOLOGY PLAN
T116	MAIN FLOOR TECHNOLOGY PATHWAY PLAN
T501	TECHNOLOGY TYPICAL DETAILS
T502	TECHNOLOGY TYPICAL DETAILS
T601	TECHNOLOGY ONE-LINE DIAGRAMS
T602	TECHNOLOGY EQUIPMENT SCHEDULES
T603	TECHNOLOGY CABLING SCHEDULES
FIRE PROTECTION	
FX001	GENERAL NOTES, DETAILS, AND LEGEND
FX111	ROOM 101 & 102 FIRE SPRINKLER FLOOR PLAN
FX112	ROOM 103 FIRE SPRINKLER FLOOR PLAN
FX113	ROOM 105 FIRE SPRINKLER FLOOR PLAN
FX114	ROOM 126 FIRE SPRINKLER FLOOR PLAN
FX301	EXISTING FIRE SPRINKLER DETAILS

GENERAL CONDITIONS

1. THE GENERAL CONTRACTOR IS TO GUARANTEE ALL WORK INCLUDING WORK DONE BY SUBCONTRACTORS FOR A PERIOD OF ONE (1) YEAR COMMENCING WITH THE SUBSTANTIAL COMPLETION OF THE CONTRACT.
2. ALL WORK IS TO BE PERFORMED IN ACCORDANCE WITH ALL GOVERNING CODES, ORDINANCES AND AUTHORITIES HAVING JURISDICTION. GENERAL CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND PAYING FOR ALL REQUIRED BUILDING PERMITS.
3. THE GENERAL CONTRACTOR IS TO HAVE A FULL TIME QUALIFIED SUPERVISOR ON THE SITE AT ALL TIMES WHILE WORK IS BEING PERFORMED.
4. ALL MATERIAL SPECIFIED IS TO BE NEW & INSTALLED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS AND SPECIFICATIONS. GENERAL CONTRACTOR IS TO CONSTRUCT PROJECT IN ACCORDANCE WITH THE DOCUMENTS. ANY DEVIATION FROM THE INTENT OF THE DOCUMENTS, WITHOUT ARCHITECT OR ENGINEER'S APPROVAL, ARE AT THE CONTRACTOR'S OWN RISK AND MAY RESULT IN THE WORK BEING DONE OVER AT CONTRACTOR'S EXPENSE (MATERIALS AND LABOR).

GENERAL NOTES

1. CONTRACTOR TO REVIEW AND BECOME FAMILIAR WITH ALL EXISTING CONDITIONS PRIOR TO COMMENCING WORK. ANY CONDITIONS NOT INDICATED ON CONTRACT DOCUMENTS ARE TO BE REPORTED TO THE ARCHITECT PRIOR TO BEGINNING WORK. DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS IN FIELD. AA BUILDING COMPONENTS ARE EXISTING TO REMAIN, UNLESS NOTED OTHERWISE. CONTACT ARCHITECT FOR FURTHER CLARIFICATION.
2. CONTRACTOR TO CONTACT LOCAL UTILITIES, IF NECESSARY, SUBMIT ALL APPLICABLE PERMIT DOCUMENTS, QUALIFICATIONS, ETC., AND BE RESPONSIBLE FOR ALL FEES ASSOCIATED WITH PERMITS, UTILITY EXTENSIONS, TAP-INS, ETC.
3. PROTECT IRRIGATION IN PLACE. CALL FOR LOCATION OF SPRINKLER HEADS IN ADVANCE OF WORK BEGINNING OR EQUIPMENT ARRIVAL. REPAIR DAMAGED LANDSCAPING AND IRRIGATION SYSTEM TO CONDITION EXISTING PRIOR TO THE START OF CONSTRUCTION.
4. THE CONTRACTOR SHALL REMOVE ALL DEBRIS AS A RESULT OF THIS PROJECT. THE CONTRACTOR WILL REMOVE EXISTING EQUIPMENT, FIXTURES, ETC. IN THE SPACE PRIOR TO CONSTRUCTION AND RELOCATE PER OWNER.
5. THE CONTRACTOR SHALL SCHEDULE HIS WORK AND MATERIAL AND EQUIPMENT DELIVERIES SO AS NOT TO INTERFERE WITH THE DAILY OPERATIONS OF THE REMAINDER OF THE FACILITY.
6. THE CONTRACTOR SHALL PROTECT EXISTING FACILITIES, EQUIPMENT, FIXTURES, EXISTING SITE IMPROVEMENTS, SITE FURNISHINGS, SIGNAGE, PERMANENT SITE FEATURES, ETC. FROM DAMAGE DURING THE COURSE OF CONSTRUCTION. OWNER WILL PHOTOGRAPH AT PRECONSTRUCTION MEETING WALK-THROUGH PRIOR TO COMMENCEMENT OF WORK.
7. REPAIRING OR REPLACING DAMAGED ITEMS IS CONTRACTOR'S RESPONSIBILITY. RESTORE DAMAGED COMPONENTS TO CONDITION EXISTING PRIOR TO THE START OF CONSTRUCTION.
8. THE CONTRACTOR SHALL KEEP DESIGNATED BUILDING ENTRANCES, ALL STAIRWELLS, AND ELEVATORS CLEAR OF CONSTRUCTION MATERIAL, TOOLS, AND EQUIPMENT AT ALL TIMES. ALL SURFACES AND/OR FINISHES DAMAGED AS A RESULT OF AND ADJACENT TO THE WORK SHALL BE REPAIRED AND FINISHED TO THEIR ORIGINAL CONDITION.
9. ACH SUBCONTRACTOR IS RESPONSIBLE TO COORDINATE AND SCHEDULE HIS WORK WITH THE GENERAL CONTRACTOR AND ALL OTHER SUBCONTRACTORS WHOSE WORK WILL BE AFFECTED.
10. USE DETAILS MARKED 'TYPICAL' (TYP) WHEREVER APPLICABLE.
11. ALL ITEMS REQUIRED BY THE DRAWINGS AND SPECIFICATIONS SHALL BE PERFORMED IN A WORKMANLIKE MANNER BY PERSONS SKILLED IN THEIR RESPECTIVE TRADE AND WHO NORMALLY PARTICIPATE IN THE WORK OF THAT TRADE. CONTRACTOR SHALL COORDINATE WORK OF ALL TRADES TO ENSURE SMOOTH, UNINTERRUPTED CONSTRUCTION.
12. WORDS WHICH HAVE WELL KNOWN TECHNICAL OR TRADEMEANINGS ARE USED IN THE DRAWINGS AND SPECIFICATIONS IN ACCORDANCE WITH SUCH RECOGNIZED MEANINGS.
13. WITHIN THE DRAWINGS AND RELATED SPECIFICATIONS THERE SHALL BE THE FOLLOWING PRECEDENCE:
    A. ADDENDA OR MODIFICATIONS TO THE DRAWINGS AND SPECIFICATIONS TAKE PRECEDENCE OVER THE ORIGINAL, WHEN ISSUED BY THE ARCHITECT.
    B. SPECIFICATIONS SHALL TAKE PRECEDENCE OVER DRAWINGS.
    C. WITHIN THE DRAWINGS THE LARGER SCALE TAKES PRECEDENCE OVER THE SMALLER, FIGURED DIMENSIONS OVER SCALED AND NOTED MATERIALS OVER GRAPHIC INDICATIONS.
14. THE ARCHITECT OR ENGINEER SHALL BE IN THE FIRST INSTANCE THE SOLE INTERPRETER OF THE DRAWINGS AND SPECIFICATIONS WITH REGARD TO THEIR MEANING OR INTENT.
15. CONSTRUCTION DOCUMENTS SHOW THE DESIGN INTENT OF THE PROJECT. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES AND PROCEDURES.
16. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ASPECTS OF SAFETY DURING BUILDING CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE AND BE RESPONSIBLE FOR PROTECTION WHERE NECESSARY TO PROTECT THE PUBLIC DURING THE CONSTRUCTION OF THE PROJECT.
17. CONTRACTOR SHALL ALLOW FOR THE OWNER AND DESIGN TEAM TO ERECT THEIR OWN SIGNAGE AT THE EDGES OF THE PROPERTY WHICH MAY BE A WIND SCREEN MOUNTED TO THE CONTRACTOR'S SITE FENCE.
18. CONTRACTOR SHALL SUBMIT FULL-SIZE SAMPLES OF ALL FINISH MATERIALS AND COLORS FOR APPROVAL BY THE OWNER'S REPRESENTATIVE. THE DRAWINGS MAY CALL OUT COLORS AND MATERIALS, BUT APPROVAL PRIOR TO PURCHASE IS REQUIRED.
19. CONTRACTOR TO ACCESS SITE BY STREETS SHOWN. ACCESS MUST BE COORDINATED WITH MSU.
20. CONTRACTOR SHALL OBTAIN APPROVAL OF ALL CONSTRUCTION STAGING SETUP FROM MSU PRIOR TO BEGINNING CONSTRUCTION. THE STAGING PLAN CAN BE PRESENTED AS A DRAWING AND NARRATIVE AT THE PRECONSTRUCTION MEETING AND UPDATED AT REGULAR A.O.C. MEETING.
21. ALL CONTRACTOR VEHICLES PARKED ON CAMPUS, INCLUDING VEHICLES OWNED BY EMPLOYEES OF THE CONTRACTOR, SHALL BE PARKED IN DESIGNATED PARKING AREAS ONLY. ALL VEHICLES PARKED IN DESIGNATED PARKING AREAS MUST HAVE A VALID MSU PERMIT. VIOLATORS OF MSU VEHICLE REGULATIONS MAY BE TICKETED AND/OR TOWED.
22. ALL WORK SHALL BE PERFORMED IN A MANNER SO AS NOT TO INCREASE/CAUSE A FIRE HAZARD.
23. PROVIDE DEMOLITION AND PATCHING NOT SHOWN BUT REQUIRED FOR THE INSTALLATION OF NEW ARCHITECTURAL DETAILS OR AS REQUIRED FOR THE WORK.
24. REID HALL WILL BE IN USE DURING THE CONSTRUCTION PERIOD. ALL ACCESS AND EXITS SHALL BE LEFT CLEAR UNLESS AGREED TO IN ADVANCE WITH THE MSU PROJECT MANAGER. COORDINATE WITH THE MSU PROJECT MANAGER.
25. CONTRACTOR SHALL BE ALLOWED TO USE WATER AND ELECTRICITY FROM REID HALL AT NO COST TO THE CONTRACTOR.
26. REID HALL IS A CONTRIBUTING RESOURCE WITHIN THE MSU HISTORIC DISTRICT LISTED IN THE NATIONAL REGISTER OF HISTORIC PLACES. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE SECRETARY OF THE INTERIOR'S STANDARDS FOR THE REHABILITATION OF HISTORIC PROPERTIES.
27. DUE TO THE AGE OF THE BUILDING, ACM AND LEAD IS SUSPECTED. ENVIRONMENTAL TESTING IS RECOMMENDED PRIOR TO START OF CONSTRUCTION.

PROJECT INFORMATION:

OWNER / DEVELOPER

STATE OF MONTANA - MONTANA STATE UNIVERSITY
UNIVERSITY FACILITIES MANAGEMENT,
MANAGED BY: PLANNING, DESIGN, & CONSTRUCTION
PLEW BUILDING 6TH & GRANT
PO BOX 172760
BOZEMAN, MT 59717-2760
ATTN: ARA MESKIMEN
EMAIL: ARA.MESKIMEN@MONTANA.EDU
TEL: (406) 994-3230

BUILDING DEPARTMENT

MONTANA DEPARTMENT OF LABOR & INDUSTRY
100 N PARK AVE
HELENA, MT 59601
EMAIL: PLANNINGTECH@BOZEMAN.NET
TEL: (406) 582-2260

DESIGN PROFESSIONALS

JACKOLA ENGINEERING & ARCHITECTURE, P.C.
2250 HWY 93 SOUTH
PO BOX 1134
KALISPELL, MT 59903
TEL: (406) 755-3208

ARCHITECT: CHELSEA HOLLING, AIA

ELECTRICAL & PLUMBING ENGINEER:
BLACKSHEEP
602 WEST HEMLOCK ST
BOZEMAN, MT 59715
EMAIL: ANDY.M@BLACKSHEEP.ENGINEERING
TEL: (406) 551-3669

FIRE SUPPRESSION:
COFFMAN ENGINEERS, INC.
751 OSTERMAN DR
STE 104
BOZEMAN, MT 59715
TEL: (496)582-1936

SITE KEYNOTES/STAGING NOTES

1. PRIMARY ACCESS ROUTE: JOB RELATED TRAFFIC SHALL ENTER THE CONSTRUCTION AREA SITE ONLY BY THIS ROUTE. VEHICLES MAKING DELIVERIES TO THE PROJECT SITE MUST BE REMOVED FROM CAMPUS IMMEDIATELY AFTER UNLOADING. CONTRACTOR SHALL MINIMIZE INTERFERENCE WITH ADJOINING STREETS, SIDEWALKS, PARKING AREAS, AND OTHER ADJACENT OCCUPIED OR USED FACILITIES DURING CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL NOT BLOCK STREETS, SIDEWALKS, OR ACCESS TO DUMPSTER LOCATION AT ANY TIME.
2. AVAILABLE CONSTRUCTION STAGING AREA: CONTRACTOR SHALL PROVIDE FENCING TO ENCLOSE ALL AREAS USED AS CONSTRUCTION STAGING AREAS, OR APPROVED EQUAL. FENCING SHALL PREVENT ACCESS FROM UNAUTHORIZED PERSONNEL. THE CONTRACTOR NEED NOT MAKE USE OF THE ENTIRE CONSTRUCTION STAGING AREA SHOWN. THE CONTRACTOR SHALL RESTORE AREAS USED FOR CONSTRUCTION STAGING THAT ARE DAMAGED DURING THE COURSE OF CONSTRUCTION OPERATIONS, TO CURRENT MSU STANDARDS AS DIRECTED BY THE MSU PROJECT MANAGER, PRIOR TO SUBSTANTIAL COMPLETION. WHERE POSSIBLE, ALL STAGING SHALL BE ON HARD SURFACING.
3. PRIMARY BUILDING ACCESS. DO NOT BLOCK ANY OTHER BUILDING ENTRANCES OR EXITS.

SITE LOCATION MAP LEGEND

- PRIMARY ACCESS ROUTE
- CONSTRUCTION STAGING AREA
- PROJECT LOCATION

PROJECT # Project Number

KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

STATE OF MONTANA
CHELSEA N. HOLLING
27680
LICENSED ARCHITECT
BELGRADE MONTANA

BID SET

REID HALL CLASSROOM RENOVATION
MONTANA STATE UNIVERSITY
REID HALL,
BOZEMAN, MONTANA 59717
PPA#: 25-1214

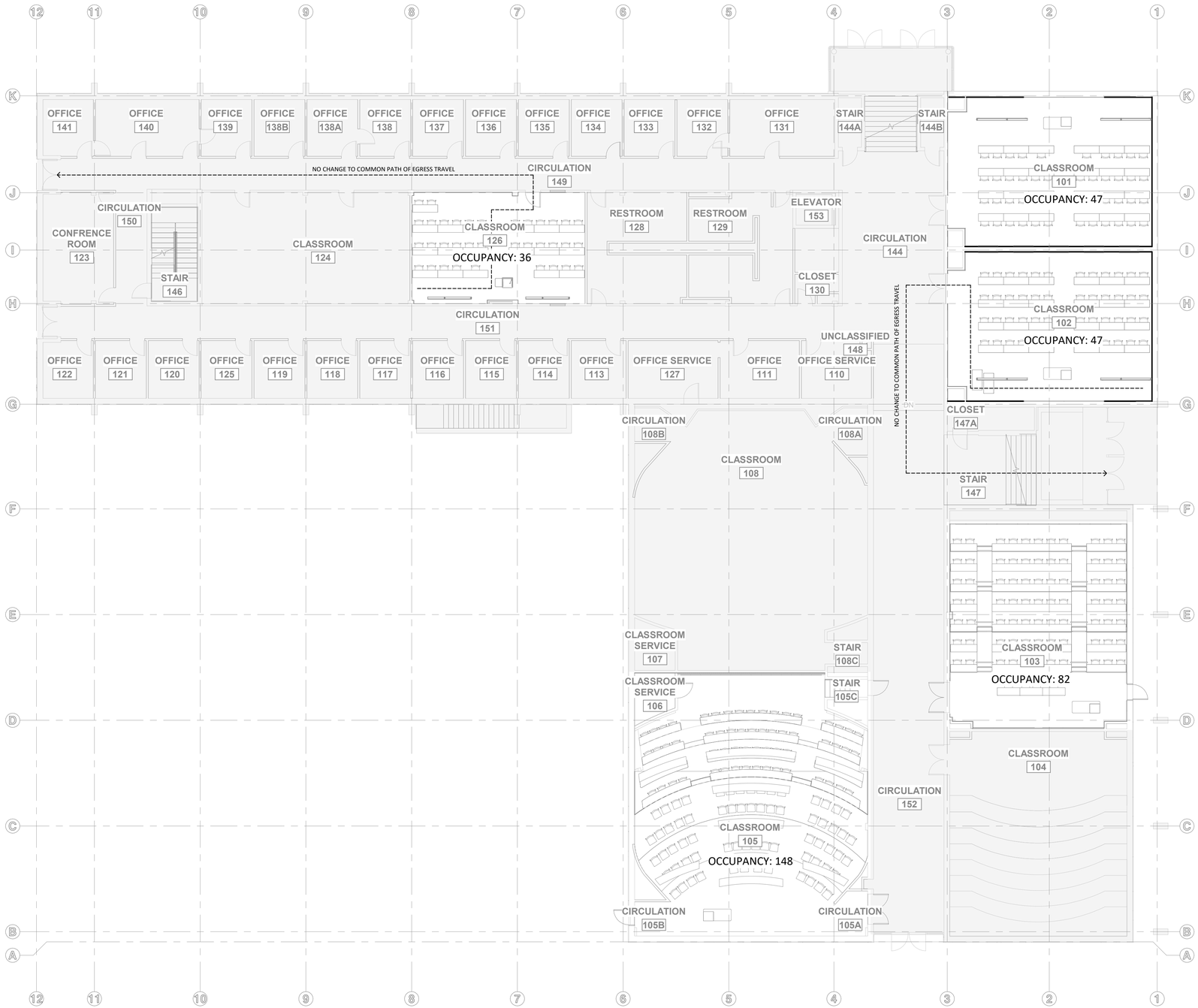
DRAWN: MC CHECKED: CH

DATE: 12/17/2025

REVISIONS:

TITLE SHEET

G-001



1 CODE PLAN
3/32" = 1'-0"
0 8' 16' 24'

PROJECT # Project Number

BUILDING REQUIREMENTS FROM INTERNATIONAL EXISTING BUILDING CODE (IEBC) 2021

LEVEL 2 (CLASSROOM):

CHAPTER 6 - CLASSIFICATION OF WORK
SECTION 602 ALTERATION - LEVEL 1: LEVEL 1 ALTERATIONS INCLUDE THE REMOVAL AND REPLACEMENT OR THE COVERING OF EXISTING MATERIALS, ELEMENTS, EQUIPMENT OR FIXTURES USING NEW MATERIALS, ELEMENTS, EQUIPMENT OR FIXTURES THAT SERVE THE SAME PURPOSE.

SECTION 603 ALTERATION - LEVEL 2: ALTERATIONS INCLUDE THE ADDITION OR ELIMINATION OF ANY DOOR OR WINDOW, THE RECONFIGURATION OR EXTENSION OF ANY SYSTEM, OR THE INSTALLATION OF ANY ADDITIONAL EQUIPMENT, AND SHALL APPLY WHERE THE WORK AREA IS EQUAL TO OR LESS THAN 50 PERCENT OF THE BUILDING AREA. LEVEL 2 ALTERATIONS SHALL COMPLY WITH THE PROVISIONS OF CHAPTER 7 FOR LEVEL 1 ALTERATIONS AS WELL AS THE PROVISIONS OF CHAPTER 8.

CHAPTER 5 - PRESCRIPTIVE COMPLIANCE METHOD
SECTION 503 ALTERATIONS: EXCEPT AS PROVIDED BY SECTION 302.4, 302.5 OR THIS SECTION, ALTERATIONS TO ANY BUILDING OR STRUCTURE SHALL COMPLY WITH THE REQUIREMENTS OF THE IBC FOR NEW CONSTRUCTION. ALTERATIONS SHALL BE SUCH THAT THE EXISTING BUILDING OR STRUCTURE IS NOT LESS COMPLYING WITH THE PROVISIONS OF THE IBC THAN THE EXISTING BUILDING OR STRUCTURE WAS PRIOR TO THE ALTERATION.

CHAPTER 8 - ALTERATIONS LEVEL 2 COMPLIANCE METHOD
SECTION 801: NEW CONSTRUCTION ELEMENTS, COMPONENTS, SYSTEMS, AND SPACES SHALL COMPLY WITH THE REQUIREMENTS OF THE IBC.

EXCEPTIONS:
SECTION 806: NEWLY INSTALLED ELECTRICAL EQUIPMENT SHALL COMPLY WITH THE REQUIREMENTS OF SECTION 806.

BUILDING REQUIREMENTS FROM INTERNATIONAL BUILDING CODE (IBC) 2021

LEVEL 2 (CLASSROOM):

USE AND OCCUPANCY CLASSIFICATION (CHAPTER 3)
ASSEMBLY: B

CHAPTER 10 - MEANS OF EGRESS
SECTION 1004 OCCUPANT LOAD:
TABLE 1004.5 MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT: EDUCATIONAL CLASSROOM OCC. TYPE
CLASSROOM 101 FLOOR AREA BY OCCUPANT TYPE - 20 NET SF: 1,195 SF/20 = 59 OCC.
PROVIDED OCCUPANT LOAD:47 OCCUPANTS

CLASSROOM 102 FLOOR AREA BY OCCUPANT TYPE - 20 NET SF: 1,184 SF/20 = 59 OCC.
PROVIDED OCCUPANT LOAD:47 OCCUPANTS

CLASSROOM 103 FLOOR AREA BY OCCUPANT TYPE - 20 NET SF: 1,419 SF/15 = 94 OCC.
PROVIDED OCCUPANT LOAD:82 OCCUPANTS

CLASSROOM 105 FLOOR AREA BY OCCUPANT TYPE - 20 NET SF: 2,218 SF/15 = 149 OCC.
PROVIDED OCCUPANT LOAD:148 OCCUPANTS

CLASSROOM 126 FLOOR AREA BY OCCUPANT TYPE - 20 NET SF: 757 SF/20 = 37 OCC.
PROVIDED OCCUPANT LOAD:36 OCCUPANTS

COMMON PATH OF EGRESS TRAVEL (CPET):
NO CHANGE TO COMMON PATH OF EGRESS TRAVEL

SECTION 1006 NUMBER OF EXITS:
TWO EXITS FROM ANY SPACE SHALL BE PROVIDED WHERE THE DESIGN OCCUPANT LOAD EXCEEDS THE VALUES LISTED IN TABLE 1006.2.1

CLASSROOM 103: 2 EXITS REQUIRED, 2 EXITS PROVIDED

CLASSROOM 105: 2 EXITS REQUIRED, 3 EXITS PROVIDED

SECTION 1010.1.1 SIZE OF DOORS: THE REQUIRED CAPACITY OF EACH DOOR OPENING SHALL BE SUFFICIENT FOR THE OCCUPANT LOAD AND SHALL PROVIDE A MINIMUM CLEAR OPENING WIDTH OF 32-INCHES.

CHAPTER 12 - INTERIOR ENVIRONMENT
SECTION 1208.2 MINIMUM CEILING HEIGHTS: OCCUPIABLE SPACES, HABITABLE SPACES AND CORRIDORS SHALL HAVE A CEILING HEIGHT OF NOT LESS THAN 7-FEET 6-INCHES ABOVE THE FINISHED FLOOR.

NOTE: PLUMBING FIXTURE COUNT HAS NOT CHANGED.

NO CHANGE IS BEING MADE TO OCCUPANCY SIZE OR TYPE.

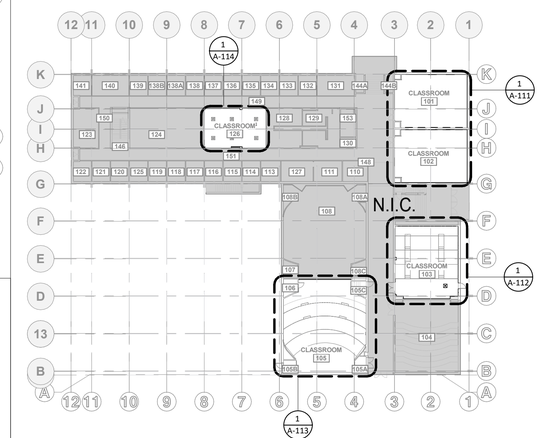
NO CHANGE TO EXIT DISTANCE OR PATH.

P LOCATION OF EXISTING ELECTRICAL PANEL. (TBC)

LEGEND

OCCUPANCY: X

CPET (COMMON PATH OF EGRESS TRAVEL) ----------



KEY PLAN

JACKOLA ENGINEERING & ARCHITECTURE PLLC
SINCE 1969
Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

STATE OF MONTANA
CHELSEA N. HOLLING
27780
REGISTERED ARCHITECT

BID SET

REID HALL CLASSROOM RENOVATION
MONTANA STATE UNIVERSITY

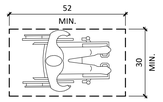
REID HALL,
BOZEMAN, MONTANA 59717
PPA#: 25-1214

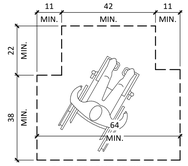
DRAWN: RH CHECKED: CH
DATE: 12/17/2025
REVISIONS:

CODE REVIEW

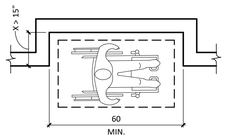
G-011

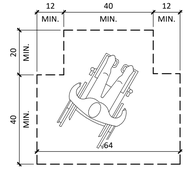
67" Ø SPACE FOR
SINGLE WHEELCHAIR



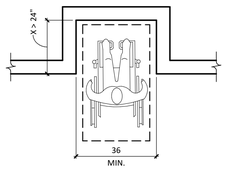


T-SHAPED SPACE OPTION 2
FOR 180° TURNS



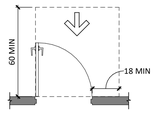


T-SHAPED SPACE OPTION 3
FOR 180° TURNS

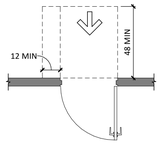


1 WHEELCHAIR TURNING & CLEAR FLOOR SPACE REQUIREMENTS

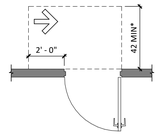
3/8" = 1'-0"



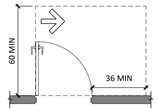
FRONT APPROACH - PULL SIDE



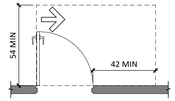
FRONT APPROACH - PUSH SIDE



LATCH APPROACH - PUSH SIDE

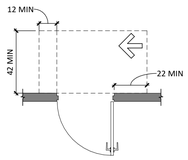


HINGE APPROACH - PULL SIDE

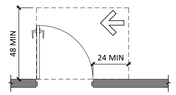


HINGE APPROACH - PULL SIDE

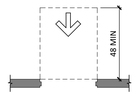
DOOR NOTES:
1. DOOR CLOSERS SHALL BE ADJUSTED SO THAT FROM AN OPEN POSITION OF 90 DEGREES, THE TIME REQUIRED TO MOVE THE DOOR TO AN OPEN POSITION OF 12 DEGREES SHALL BE 5 SECONDS MINIMUM.
2. EXTERIOR DOOR LANDINGS SHALL SLOPE A MAXIMUM OF 1/4":1'-0" IN ANY DIRECTION. (INTERIOR DOORS SHALL BE LEVEL.) EXTERIOR LANDINGS SHALL SLOPE A MINIMUM OF 1/8":1'-0" AWAY FROM THE BUILDING.
3. DOOR LANDINGS SHALL BE A MINIMUM OF 44" IN DEPTH.



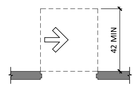
HINGE APPROACH - PUSH SIDE



LATCH APPROACH - PULL SIDE



FRONT APPROACH



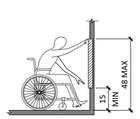
SIDE APPROACH

MANEUVERING CLEARANCE AT MANUAL SWINGING DOORS

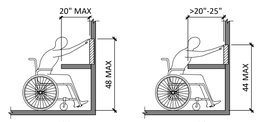
MANEUVERING CLEARANCE AT DOORWAYS WITHOUT DOORS

4 DOOR CLEARANCE AND LANDING REQUIREMENTS

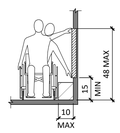
1/4" = 1'-0"



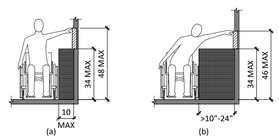
UNOBSTRUCTED FORWARD REACH



OBSTRUCTED HIGH FORWARD REACH



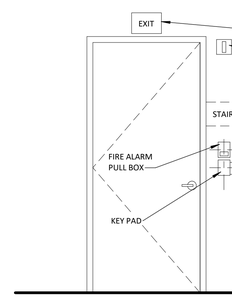
UNOBSTRUCTED SIDE REACH.



OBSTRUCTED HIGH SIDE REACH

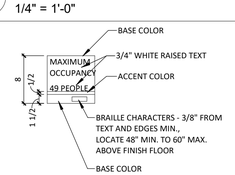
2 ADA - REACH RANGES

1/4" = 1'-0"



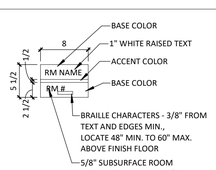
5 TYP. MOUNTING HTS. @ EXIT DOOR

1/2" = 1'-0"



SIGN A

BASE AND ACCENT COLORS TO BE SELECTED FROM MANUFACTURERS STANDARD RANGE



SIGN B

BASE AND ACCENT COLORS TO BE SELECTED FROM MANUFACTURERS STANDARD RANGE

3 ACCESSIBLE SIGNAGE

1" = 1'-0"

PROJECT # Project Number

JACKOLA ENGINEERING & ARCHITECTURE PLLC
SINCE 1969 P.C.
Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

STATE OF MONTANA
BELGRADE
CHELSEA N. HOLLING
27760
REGISTERED MONTANA ARCHITECT

BID SET

REID HALL CLASSROOM RENOVATION
MONTANA STATE UNIVERSITY

REID HALL,
BOZEMAN, MONTANA 59717
PPA#: 25-1214

DRAWN: RH CHECKED: CH

DATE: 12/17/2025

REVISIONS:

ACCESSIBILITY DETAILS

G-013

ABBREVIATIONS

A

AFF	ABOVE FINISH FLOOR
ACT	ACOUSTICAL CEILING TILE
ADJ	ADJUSTABLE
AB	ANCHOR BOLT
ALUM	ALUMINUM
ALT	ALTERNATE
ANOD	ANODIZED
APPROX	APPROXIMATE
ARCH	ARCHITECT

B

BSMT	BASEMENT
BATH	BATHROOM
BM	BEAM
BRG	BEARING
BEDRM	BEDROOM
BET	BETWEEN
BLDG	BUILDING
BO	BOTTOM OF
BOT	BOTTOM
BN	BOUNDARY NAILING
BS	BOTH SIDES

C

CPT	CARPET
CLG	CEILING
CT	CERAMIC TILE
CLR	CLEAR
CLST	CLOSET
COL	COLUMN
CONC	CONCRETE
CONST	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACT, CONTRACTOR
CORR	CORRIDOR
CJ	CONTROL JOINT
CMU	CONCRETE MASONRY UNIT
CFCI	CONTACTOR FURNISHED CONTRACTOR INSTALLED

D

DEMO	DEMOLISH, DEMOLITION
DTL	DETAIL
DIA	DIAMETER
DIM	DIMENSION
DW	DISHWASHER
DIV	DIVISION
DL	DEAD LOAD
DR	DOOR
DN	DOWN
DS	DOWNSPOUT
DWG	DRAWING
DF	DRINKING FOUNTAIN
D	DRYER

E

EA	EACH
E	EAST
ELEC	ELECTRIC
ELEV	ELEVATION, ELEVATOR
EQ	EQUAL
EQUIP	EQUIPMENT
EXIST	EXISTING
EXP	EXPANSION
EJ	EXPANSION JOINT
EXT	EXTERIOR

F

FOB	FACE OF BRICK
FOC	FACE OF CONCRETE
FOM	FACE OF MASONRY
FOS	FACE OF STUDS
FIN	FINISH
FF	FINISH FLOOR
FEC	FIRE EXTINGUISHER/AND OR CABINET
FL	FLASHING
FLR	FLOOR
FD	FLOOR DRAIN
FT	FOOT, FEET
FTG	FOOTING
FND	FOUNDATION
FURN	FURNITURE
FUT	FUTURE
FBO	FURNISHED BY OTHERS
FRP	FIBER REINFORCED PANEL

G

GA	GAUGE
GALV	GALVANIZED
GEN	GENERAL
GL	GLASS
GWB	GYPSUM WALL BOARD
GYPC	GYPCRETE

H

HALL	HALLWAY
HDW	HARDWARE
HVAC	HEATING, VENTILATING, & AIR CONDITIONING
HT	HEIGHT
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HWT	HOT WATER TANK
HR	HOUR

I

IBC	INTERNATIONAL BUILDING CODE
INCL	INCLUDE, INCLUDED (ING)
INFO	INFORMATION
ID	INSIDE DIAMETER
INSUL	INSULATE,INSULATION
INT	INTERIOR

J

JAN	JANITOR
JC	JANITOR'S CLOSET
JT	JOINT

K

KIT	KITCHEN
KO	KNOCK OUT

L

LBL	LABEL
LAM	LAMINATED
LNDRY	LAUNDRY
LAV	LAVATORY
LVL	LEVEL
LL	LIVE LOAD
LR	LIVING ROOM
LOC'N	LOCATION

M

MFR	MANUFACTURER
MAS	MASONRY
MO	MASONRY OPENING
MATL	MATERIAL
MAX	MAXIMUM
MECH	MECHANICAL, MECHANICAL ROOM
MTL	METAL
MIN	MINIMUM
MIRR	MIRROR
MISC	MISCELLANEOUS

N

NOM	NOMINAL
N	NORTH
NA	NOT APPLICABLE
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
NO	NUMBER

O

OC	ON CENTER
OFF	OFFICE
OPG	OPENING
OPP	OPPOSITE
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
OFOI	OFWNER FURNISHED OWNER INSTALLED
O/O	OUT TO OUT

P

PNT	PAINT, PAINTED
PNL	PANEL
PH	PHASE
PLAS	PLASTIC
P-LAM	PLASTIC LAMINATE
PL	PLATE
PLYWD	PLYWOOD
PVC	POLYVINYL CHLORIDE
PREFIN	PREFINISHED
PROP	PROPERTY

Q

QTY	QUANTITY

R

RAD	RADIUS
RWL	RAIN WATER LEADER
REF	REFERENCE
REINF	REINFORCE, REINFORCEMENT
RCP	REFLECTED CEILING PLAN
REQ'D	REQUIRED
RFI	REQUEST FOR INFORMATION
REV	REVISION
R	RISER
RD	ROOF DRAIN
RM	ROOM
RO	ROUGH OPENING

S

SCHED	SCHEDULE
SEC	SECTION
SG	SAFETY GLASS
SHTG	SHEATHING
SIM	SIMILAR
SOG	SLAB ON GRADE
S	SOUTH
SPEC	SPECIFICATION
SQ	SQUARE
STD	STANDARD
STL	STEEL
STOR	STORAGE
STRUCT	STRUCTURAL
SF	SQUARE FEET
SUSP	SUSPENDED

T

TEL	TELEPHONE
TV	TELEVISION
TEMP	TEMPERED, TEMPORARY
T&G	TONGUE AND GROOVE
TOB	TOP OF BRICK
TOS	TOP OF SLAB
TOW	TOP OF WALL
TOM	TOP OF MASONRY
T	TREAD
TYP	TYPICAL

U

UAS	UPWARD ACTING SECTIONAL DOOR
UBC	UNIFORM BUILDING CODE
UNO	UNLESS NOTED OTHERWISE
UTIL	UTILITY

V

VB	VAPOR BARRIER
VNR	VENEER
VERT	VERTICAL
VG	VERTICAL GRAIN
VCT	VINYL COMPOSITION TILE

W

WSCT	WAINSCOT
WC	WATER CLOSET
WIN	WINDOW
WP	WATERPROOF (ING)
WRB	WEATHER RESISTANT BARRIER
WWF	WELDED WIRE FABRIC
WWM	WELDED WIRE MESH
WT	WEIGHT
W	WEST, WASHER
W/	WITH
W/D	WASHER / DRYER

SYMBOLS USED AS ABBREVIATIONS

&	AND
L	ANGLE
@	AT
CL	CENTERLINE
u	CHANNEL
Ø	DIAMETER
PL	PLATE

SYMBOLS & MATERIALS

STRUCTURAL FILL
UNDISTURBED EARTH
DISTURBED EARTH
GRAVEL
POURED CONCRETE
CONCRETE MASONRY UNITS
CONCRETE BLOCK VENEER
BRICK VENEER
EIFS
ROUGH WOOD
BLOCKING
FINISHED WOOD
PLYWOOD
RIGID INSULATION
BATT INSULATION
SPRAYFOAM INSULATION
SAND, PLASTER, GROUT
METAL
STEEL
NOT IN CONTRACT (N.I.C.)

SECTION (XX / A-XXX)
ELEVATION (XX / A-XXX)
DETAIL (XX / A-XXX)
ITEM IDENTIFICATION / SHEET WHERE ITEM IS CUT (XX / A-XXX)
NORTH ARROW
ROOM FINISH KEY (WALL N, WALL W, WALL E, WALL S, CLG, SILL, FLR, BASE, NOTES)

WINDOW TYPE (XX)
DOOR NUMBER (X)
ROOM NUMBER (XXX)
WALL TYPE (X.XX - S / X'-X")
REVISION NUMBER (X)
KEY NOTE (X)
DEMOLITION NOTE (X)
FINISH TAG (X)
EQUIPMENT TAG (XX)
ELEMENTS TO BE DEMOLISHED
EXISTING TO REMAIN
FLOOR TRANSITION

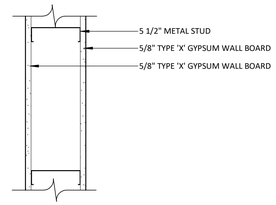
A-102

LEVEL 1 DISCIPLINE DESIGNATOR
LEVEL 2 DISCIPLINE DESIGNATOR
LEVEL SEQUENCE NUMBER
PLAN TYPE SEQUENCE NUMBER
SHEET TYPE DESIGNATOR

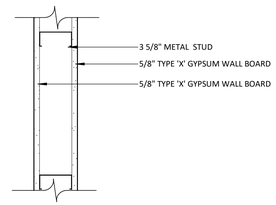
* NOTE *

THE SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET MAY OR MAY NOT BE USED IN THIS SET OF DRAWINGS.

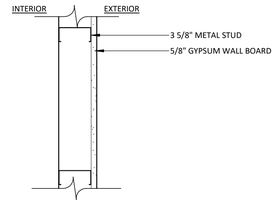
ARCHITECTURAL SHEET INDEX



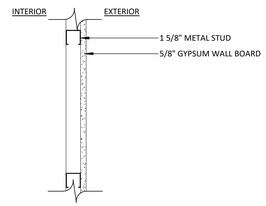
B.1 2X6 INTERIOR WALL
SCALE: 1 1/2" = 1'



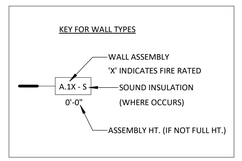
B.2 2X4 INTERIOR WALL
SCALE: 1 1/2" = 1'



F.1 2X4 FURRED WALL
SCALE: 1 1/2" = 1'



F.2 2X4 FURRED WALL
SCALE: 1 1/2" = 1'



JACKOLA ENGINEERING & ARCHITECTURE
SINCE 1969 P.C.
Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com | jackola.com

STATE OF MONTANA
CHELSEA N. HOLLING
27780
REGISTERED ARCHITECT
BELGRADE, MONTANA

BID SET

REID HALL CLASSROOM RENOVATION
MONTANA STATE UNIVERSITY

REID HALL,
BOZEMAN, MONTANA 59717
PPA#: 25-1214

DRAWN: RH CHECKED: CH
DATE: 12/17/2025
REVISIONS:

ARCHITECTURAL TITLE SHEET

A-001

PROJECT # Project Number

REM01 – GENERAL NOTES:

1. The project abatement contractor (AC) shall coordinate asbestos and lead-based paint (LBP) work activities, including any proposed changes, with the Owner or the Owner's Representative (hereafter collectively referred to as OR) and Owner's General Contractor (GC). Asbestos and LBP work, including associated selective demolition and/or abatement activities, if any - shall be performed by the AC, unless noted otherwise. Owner may, at their option, utilize the services of a professional industrial hygienist (PIH), in which case AC shall coordinate with PIH as noted below. In the absence of a PIH, AC shall coordinate with OR.

2. AC to comply with all applicable federal (EPA, OSHA), state (Montana DEQ), and local (Gallatin County, City of Bozeman) regulations, as well as requirements of the project documents. All asbestos work is to be completed by individuals holding current Montana accreditation as Asbestos Contractor/Supervisors or Asbestos Workers. All LBP work to be completed by individuals currently trained as required by OSHA for handling of LBP.

3. The intent of the project is to disturb asbestos and/or LBP only where necessary to complete the renovation work. AC to coordinate with OR/GC to determine locations where removal or disturbance of these materials will be completed by AC. Where disturbance and/or removal of asbestos or LBP is necessary, intact removal shall be favored when feasible. Where intact removal is infeasible, work practices shall be selected to limit the potential for exposure to workers, building occupants, and the environment while adhering to applicable regulatory requirements. As an example, dust generated during drilling an anchor point or hole into a surface with LBP may be captured with a HEPA-filtered vacuum, a foam-filled cup, etc.

4. It is understood disturbance of asbestos "target materials" required as part of AC's asbestos work for the project may be limited to quantities less than DEQ's asbestos project quantity criteria (e.g., 10 SF, 3 LF, 3 CF of RACM). In the event the quantity of ACM to be disturbed exceeds DEQ's asbestos project quantity criteria, it is also understood some asbestos target materials may be feasibly removed as either Category I/II non-friable ACM. If the DEQ asbestos project quantity criteria are not exceeded for the overall project, a DEQ asbestos project permit may not be required for this project. AC to coordinate with PIH regarding likelihood of ACM being rendered friable (RACM) in quantities exceeding the DEQ asbestos project quantity thresholds. If DEQ's asbestos project quantity criteria are exceeded, any ACM which will be or is likely to be friable during completion of the work must be included on the asbestos project permit. The inspection report denotes the anticipated condition of the asbestos target materials if impacted. However, since these determinations depend on conditions at the time of disturbance which cannot be known during the inspection, AC to determine friability during completion of the work.

5. Prior to initiation of the scope of work, AC to provide all requested submittal information and receive written notice to proceed from OR. Required submittal information includes, but may not be limited to: 1) Copies of current Montana DEQ asbestos accreditation for all on-site project personnel conducting asbestos work. At least 1 individual must hold current Asbestos Contractor/Supervisor accreditation (meeting OSHA's definition of a Competent Person with regard to asbestos, per 29 CRF 1926.1101). All others may instead hold current Montana DEQ Asbestos Worker accreditations, at a minimum; 2) DEQ asbestos project permit, if required per Montana DEQ regulations; 3) Documentation of OSHA lead awareness training for all on-site project personnel conducting LBP work, per 29 CFR 1926.62, Appendix B, Paragraph L.

6. Asbestos and LBP "target materials" locations are shown in the project documents for informational purposes only. The actual locations where these materials will be disturbed (and the resulting quantities) will depend on the means and methods selected by the GC for completion of the project. AC shall satisfy themselves regarding the actual quantities to be included in the work during the pre-bid site walk and/or through coordination with OR and GC.

7. At the Owner's option, Owner's PIH will perform on-site oversight of AC throughout the project, which may include initial inspections of work areas (e.g., regulated areas, containments, etc.) established by AC for each work area; periodic spot checks of AC's activities; and/or post-abatement clearance monitoring. PIH will have stop-work authority over AC in the event noted deficiencies are not adequately addressed by the AC.

8. AC to perform asbestos and LBP work in areas noted in the project documents, as necessary for completion of the project (see General Note 6, above). AC to coordinate removal strategies with PIH prior to initiating preparation and/or removal activities, including agreement between AC and PIH regarding which materials will be removed as RACM (if any) and which can be removed as Category I/II non-friable ACM or non-ACM (< 1% asbestos), and methods for removal and/or disturbance of LBP materials. In the event a Montana DEQ asbestos project permit is required for the project, AC to coordinate alternate work practice requests submitted to DEQ, if any, with PIH. Changes to initial removal strategies agreed upon between AC and PIH must be approved in writing by the PIH prior to being initiated.

9. Discovery of additional and/or previously unidentified suspect/confirmed asbestos or LBP target materials, if any, shall be reported to the PIH and/or OR as quickly as practicable. Previously unidentified suspect target materials will be assessed by the PIH or assumed to be asbestos-containing/LBP materials, at the discretion of the PIH and in coordination with the OR. Removal of additional target materials will be coordinated between the OR, PIH, and AC. Additional RACM shall be added to the asbestos project permit by the AC prior to removal, if applicable.

10. Electric and mechanical (heat, water, etc.) services at the site will be available for AC's use in completing the work, except where necessary to be deactivated to complete the work. Owner or GC will deactivate services as necessary to complete the work. AC to coordinate with OR and/or GC regarding which services to deactivate for each work area (if any) and whether or not the work may result in potential damage to the building systems.

11. AC to provide ground fault circuit interrupters (GFCI) for electrical equipment to be used during asbestos or LBP work which utilizes wet methods. AC will not be allowed to begin work activities requiring electrical equipment and wet methods until GFCIs are present. AC to coordinate with OR and/or GC to ensure electrical circuits are de-energized as necessary to safely complete the work.

12. AC to prevent exposure to hazardous materials associated with their work for the Owner, PIH, GC and other trades, building occupants, the public, the environment, and AC's staff. This may include - but may not be limited to - use of appropriate work area demarcation, use of appropriate work practices (e.g., wet methods, HEPA-filtered vacuums, tools with point-of-cut dust collection and HEPA filtration, etc.), and/or various combinations of the following to prevent migration of contaminants from the work areas: drop sheets, critical barriers, mini-containments, negative pressure enclosures, etc.

13. AC to coordinate asbestos and LBP work with PIH prior to initiation of activities, including number and general layout of work areas (e.g., regulated areas, critical barriers, negative pressure enclosures, etc.). AC shall demarcate asbestos and LBP work areas in a manner consistent with OSHA requirements, and which minimizes the number of persons within the area and protects persons outside the area from exposure to contaminants which may be generated as a result of the work. Regulated areas, drop sheets, critical barriers, negative pressure enclosures, etc., shall be utilized in accordance with OSHA requirements for Class I - IV asbestos work (29 CRF 1926.1101) and OSHA requirements for disturbance of materials containing lead (29 CFR 1926.62), as appropriate.

14. Based on the quantities of asbestos and LBP target materials expected to be disturbed during the project, it is anticipated that critical barriers, containments, and negative-pressure enclosures may not be required in some work areas. Where required, AC shall construct work area barriers, critical barriers, or negative pressure enclosures (as applicable) to the satisfaction of the Owner's PIH before asbestos or LBP work begins. This includes use of 6-mil, fire-retardant plastic sheeting for work area critical barriers (2 layers at HVAC openings), mini-containments, or free-standing containment walls/ceilings. Containment walls and ceilings which cover existing surfaces shall consist of 4-mil (or heavier) fire-retardant plastic sheeting unless noted otherwise. Containment floors shall consist of 6-mil (or heavier) fire-retardant plastic sheeting, unless noted otherwise. AC shall construct critical barriers and containment walls and ceilings to extend to fixed surfaces where feasible in order to prevent contaminant leakage. AC shall inspect critical barriers and containments daily and repair failed seams, rips, tears, and/or other damage immediately upon discovery.

15. Where negative pressure enclosures are required or otherwise utilized, AC to ensure required air changes (4 per hour, minimum) and negative pressure (minimum of -0.02 column inches water pressure differential) are maintained in each containment from the time of the initial containment inspection (or prior to initiation of abatement activities, if no initial containment inspection is conducted) through satisfactory completion of post-abatement clearance monitoring for the respective containments. Negative air pressure shall be monitored with a manometer fitted with a recording strip or digital recorder. Negative pressure shall be achieved through use of HEPA-filtered negative air machines (NAM), with all exhaust vented to the building exterior. AC responsible for securing all exhaust locations. Additional NAMs shall be available for "scrubbing" in work areas with little or no air movement. At least 1 additional spare NAM shall be available on site for each active containment area, as a back-up in case of failure.

16. Unless otherwise noted, filtered make-up air locations on negative pressure containment areas (if any) shall consist of MERV 11 filters (minimum) with interior gravity (weighted) flaps to prevent fiber release in the event of loss of negative pressure within the containment. AC is responsible for securing make-up air locations.

17. Items to be left in place (e.g., cabinets, shelves, non-ACM materials, etc.) within each work area should be covered with plastic sheeting and sealed by AC prior to initiation of AC's asbestos or LBP work. Alternatively, uncovered materials which become contaminated may be thoroughly decontaminated by AC or disposed as contaminated waste. Note that non-porous surfaces (e.g., smooth painted walls) can typically be readily decontaminated, whereas porous surfaces (e.g., unpainted walls, most ceiling tiles, carpets, etc.) typically cannot be readily decontaminated. Contaminated materials not already scheduled for disposal may be subject to replacement (i.e., replaced with new materials of equal or greater quality) at AC's expense. Coordinate with OR and/or GC.

18. At Owner's option, the PIH may collect and analyze work area and/or ambient air samples during AC's work; if air samples are occluded or result in concentrations above regulatory criteria, Owner's PIH may issue a stop-work order until AC satisfactorily addresses the deficiency. In any case, AC shall be responsible for conducting all required exposure monitoring for their own personnel.

19. AC shall not remove target materials or contaminated materials which cannot be safely and effectively cleaned up during the same work shift they were removed. The Owner's PIH may issue a stop worker order if materials or work areas are left uncleaned.

20. AC shall place all asbestos and LBP target material waste in rigid, air-tight and leak-tight containers. Alternatively, asbestos and/or LBP target material waste may be double bagged. For sharp or jagged waste, the first bag shall consist of a burlap or woven nylon sack to prevent tearing/ripping. The outer bag shall consist of 6-mil poly and must bear the appropriate labels as required by EPA, OSHA, and/or DEQ. All asbestos waste to be properly packaged, transported, and disposed by AC as asbestos special waste. In the absence of a leachable lead assessment indicating otherwise, AC shall package, transported, and dispose LBP target material waste as presumed hazardous waste, with regard to lead. AC may choose to undertake completion of a leachable lead assessment, at their own expense, following coordination with the Owner's PIH. AC's leachable lead assessment methods and results must be reviewed by Owner's PIH to confirm the findings are usable in determining waste disposal requirements.

21. AC to complete asbestos and LBP work to minimize damage and leave clean edges where feasible (e.g., where ceiling/wall systems or floor tile will be left in place, etc.) to minimize deterioration of materials and allow for easier tie-in with replacement materials, as appropriate. Coordinate with OR and/or GC.

22. "Post-abatement" clearance monitoring may not be regulatorily required for some work areas where abatement is not conducted, so long as the asbestos work is limited to conditions less than the Montana DEQ "asbestos project" criteria, and if the LBP work is not expected to be considered a "lead abatement" as defined by EPA (40 CFR Part 745.223). In the event some or all of these criteria are met, clearance monitoring may be required. If not required, Owner may still, at their option, choose to have the PIH perform "clearance" monitoring following completion of asbestos and LBP work in each work area. Clearance monitoring, if conducted, will consist of visual confirmation of asbestos or LBP target material removal and cleanup, at a minimum. Where asbestos clearance air sampling is conducted, either the NIOSH 7400 Method for PCM or the AHERA Method for TEM sampling and analysis will be followed. LBP clearance monitoring will consist of collection of surface wipe samples from window sills and/or floors adjacent to LBP work areas, in general accordance with select portions of the methods outlined in 40 CRF 745.277(e)(8). Successful asbestos clearance criteria will include no visible target material (or associated dust or debris) in the work area; airborne fiber concentrations of ≤ 0.01 f/cc for all asbestos clearance samples from a given PCM air sampling event; and airborne asbestos concentrations ≤ 70 S/mm2 for all asbestos clearance samples from a given TEM air sampling event. Successful LBP clearance criteria will include no visible target material (or associated dust or debris) in the work area; < 5 µg/ft2 lead for floor wipe samples; < 40 µg/ft2 lead for window sill wipe samples; and < 100 µg/ft2 lead for window trough wipe samples. Owner's PIH will utilize overnight shipping and will request expedited analytical turnaround for all laboratory analyses of samples. Alternatively, Owner's PIH may analyze PCM samples using a portable microscope, adhering to DEQ's analytical requirements. AC to coordinate clearance schedules with PIH and provide as much advanced notice as feasible.

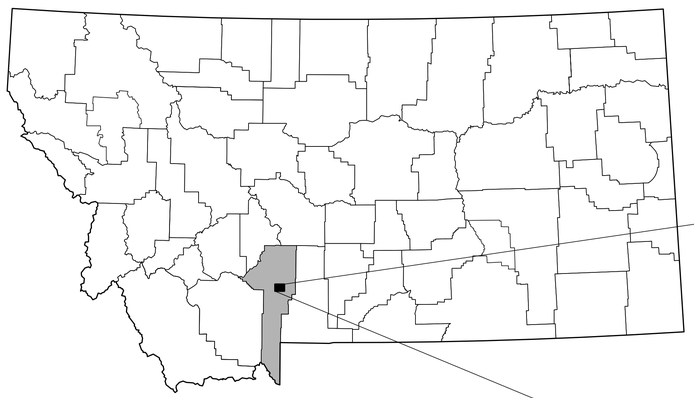
23. Upon completion of the work, AC to submit to PIH documentation of proper disposal of asbestos waste (and LBP waste, if applicable) resulting from their work.

PREPARED BY:
AIR WATER SOIL, LLC
1321 8TH AVENUE NORTH, SUITE 104
GREAT FALLS, MONTANA 59401
CONTACT: J. SCOTT VOSEN
406.315.2201

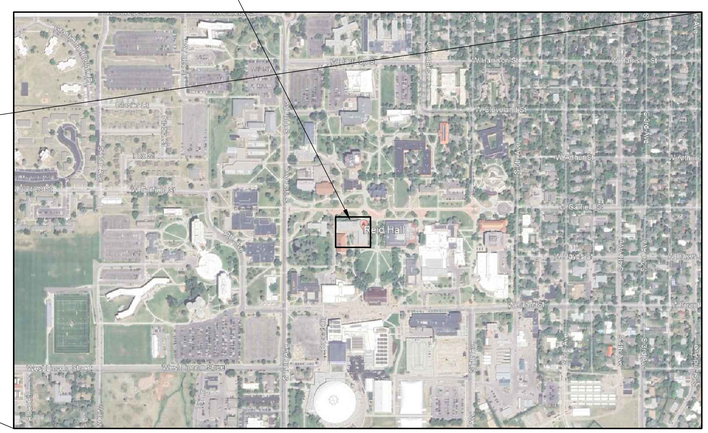
APPROVED BY (PROJECT OWNER):
MONTANA STATE UNIVERSITY
UNIVERSITY FACILITIES MANAGEMENT
PLANNING, DESIGN & CONSTRUCTION
P.O. BOX 172760
BOZEMAN, MONTANA 59717
CONTACT: ARA MESKIMEN
406.994.3230

PROPERTY OWNER:
MONTANA STATE UNIVERSITY
P.O. BOX 172760
BOZEMAN, MONTANA 59717

BOZEMAN, GALLATIN COUNTY, MONTANA



PROJECT SITE



AIR WATER SOIL
GREAT FALLS, MT
p 406.315.2201

Montana State University, Bozeman, Montana
MSU Reid Hall First Floor - PPA 25-1214 Classroom Renovations 2025-26
Asbestos and Lead-Based Paint Remediation Sheets

Montana State University

12.17.2025
25020-T2

DRAWN BY
DRESCH
CHECKED BY
NSV

SITE VICINITY MAP

FIGURE
REM01

LEGEND

MATERIALS LISTED BELOW ARE LEAD-BASED PAINT (LBP), CONTAINING LEAD AT CONCENTRATIONS EQUAL TO OR GREATER THAN 1.0 MILLIGRAMS PER SQUARE CENTIMETER (≥ 1.0 mg/cm²). XRF SHOT NUMBERS ARE PROVIDED FOR REFERENCE (SEE DATA SUMMARY TABLE INCLUDED WITH REPORT).

PINK PAINT ON STEEL DOOR HEADER IN ROOMS 101, 102, 103, AND 105.

REM02 – DETAIL 1 – BASE SCOPE – ROOMS 101 + 102 – LBP NOTES:

A) Owner will remove any unfastened equipment, furniture, supplies, etc., as necessary for GC/AC to complete the work.

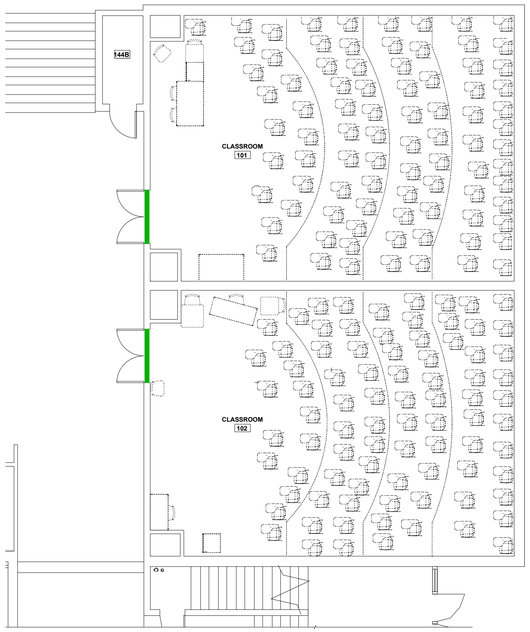
B) Disturbance of asbestos is not anticipated in this area.

C) If selective demolition activities are necessary and are likely to result in disturbance of asbestos or LBP, they should be conducted using the same controls and methods required for asbestos or LBP removal, respectively.

D) It is anticipated LBP on steel headers above door cases in Rooms 101 and 102 will be stripped of LBP to facilitate refinishing as part of the scope of work.

E) As discussed in the General Notes, in the absence of a leachable lead assessment indicating otherwise, LBP target material waste must be packaged, transported, and disposed as presumed hazardous waste, with regard to lead. AC to coordinate with OR and PIH.

F) As discussed in the General Notes, clearance requirements will depend on the extents of disturbance and methods employed by AC. In the event LBP is removed from steel headers over doorways in Rooms 101 and/or 102, it is anticipated post-abatement clearance monitoring will consist of visual confirmation of completion, followed by collection and laboratory analysis of floor wipe samples from within and proximate to the work area. Clearance criteria are expected to be as stated in the General Notes. Coordinate with PIH.

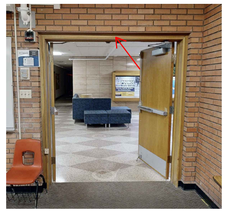


NORTH

1 REM02

BASE SCOPE - ROOM 101 & 102 - LBP

ROOM 101 - LBP ON STEEL DOOR HEADER



ROOM 102 - LBP ON STEEL DOOR HEADER

LEGEND

MATERIALS LISTED BELOW ARE LEAD-BASED PAINT (LBP), CONTAINING LEAD AT CONCENTRATIONS EQUAL TO OR GREATER THAN 1.0 MILLIGRAMS PER SQUARE CENTIMETER (≥ 1.0 mg/cm²). XRF SHOT NUMBERS ARE PROVIDED FOR REFERENCE (SEE DATA SUMMARY TABLE INCLUDED WITH REPORT).

PINK PAINT ON STEEL DOOR HEADER IN ROOMS 101, 102, 103, AND 105.

REM02 – DETAIL 2 – ALTERNATE #103 SCOPE – ROOM 103 – LBP NOTES:

A) Owner will remove any unfastened equipment, furniture, supplies, etc., as necessary for GC/AC to complete the work.

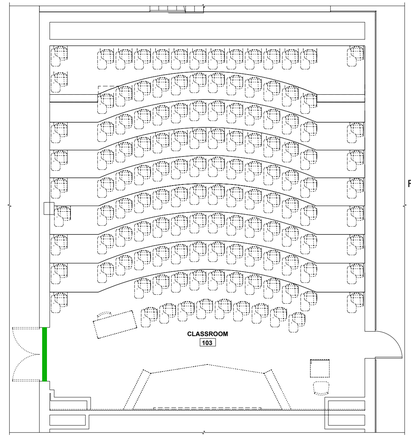
B) Disturbance of asbestos is not anticipated in this area.

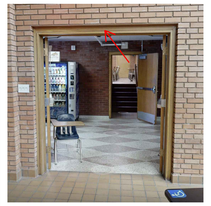
C) If selective demolition activities are necessary and are likely to result in disturbance of asbestos or LBP, they should be conducted using the same controls and methods required for asbestos or LBP removal, respectively.

D) It is anticipated LBP on steel headers above the door case in Room 103 will be stripped of LBP to facilitate refinishing as part of the scope of work.

E) As discussed in the General Notes, in the absence of a leachable lead assessment indicating otherwise, LBP target material waste must be packaged, transported, and disposed as presumed hazardous waste, with regard to lead. AC to coordinate with OR and PIH.

F) As discussed in the General Notes, clearance requirements will depend on the extents of disturbance and methods employed by AC. In the event LBP is removed from the steel header over the doorway in Room 103, it is anticipated post-abatement clearance monitoring will consist of visual confirmation of completion, followed by collection and laboratory analysis of floor wipe samples from within and proximate to the work area. Clearance criteria are expected to be as stated in the General Notes. Coordinate with PIH.





ROOM 103 - LBP ON STEEL DOOR HEADER

NORTH

2 REM02

ALTERNATE #103 SCOPE - ROOM 103 - LBP

LEGEND

MATERIALS LISTED BELOW ARE LEAD-BASED PAINT (LBP), CONTAINING LEAD AT CONCENTRATIONS EQUAL TO OR GREATER THAN 1.0 MILLIGRAMS PER SQUARE CENTIMETER (≥ 1.0 mg/cm²). XRF SHOT NUMBERS ARE PROVIDED FOR REFERENCE (SEE DATA SUMMARY TABLE INCLUDED WITH REPORT).

PINK PAINT ON STEEL DOOR HEADER IN ROOMS 101, 102, 103, AND 105.

REM02 – DETAIL 3 – ALTERNATE #105 SCOPE – ROOM 105 – LBP NOTES:

A) Owner will remove any unfastened equipment, furniture, supplies, etc., as necessary for GC/AC to complete the work.

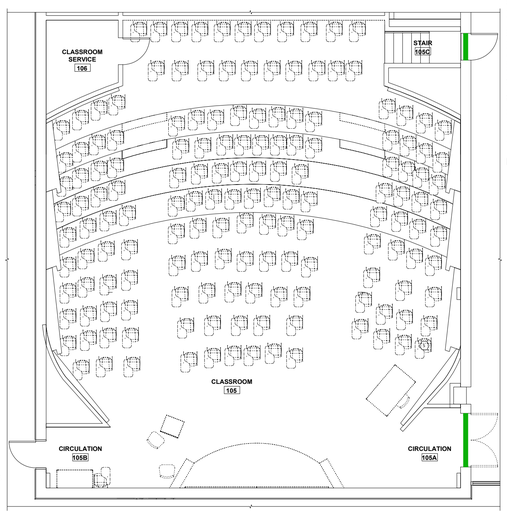
B) Disturbance of asbestos is not anticipated in this area.

C) If selective demolition activities are necessary and are likely to result in disturbance of asbestos or LBP, they should be conducted using the same controls and methods required for asbestos or LBP removal, respectively.

D) It is anticipated LBP on steel headers above the door cases in Room 105 will be stripped of LBP to facilitate refinishing as part of the scope of work.

E) As discussed in the General Notes, in the absence of a leachable lead assessment indicating otherwise, LBP target material waste must be packaged, transported, and disposed as presumed hazardous waste, with regard to lead. AC to coordinate with OR and PIH.

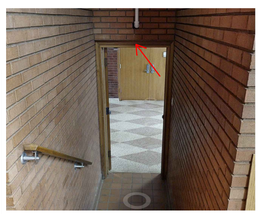
F) As discussed in the General Notes, clearance requirements will depend on the extents of disturbance and methods employed by AC. In the event LBP is removed from steel headers over doorways in Room 105, it is anticipated post-abatement clearance monitoring will consist of visual confirmation of completion, followed by collection and laboratory analysis of floor wipe samples from within and proximate to the work area. Clearance criteria are expected to be as stated in the General Notes. Coordinate **with PIH.**



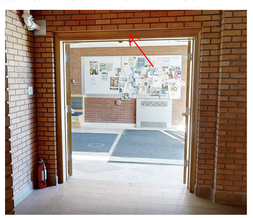
NORTH

3 REM02

ALTERNATE #105 SCOPE - ROOM 105 - LBP



ROOM 105 NE DOOR - LBP ON STEEL DOOR HEADER



ROOM 105 SE DOOR - LBP ON STEEL DOOR HEADER

LEGEND

F2.2 - 12-IN x 12-IN TAN WITH BROWN SMUDGES VINYL FLOOR TILES WITH BLACK AND TAN MASTIC. HALLWAYS ADJACENT TO ROOM 126. 2% CHRYSOTILE (FLOOR TILES) 2% CHRYSOTILE (MASTICS). CATEGORY I ACM (UNLESS RENDERED FRIABLE).

REM02 – DETAIL 4 – ALTERNATE #126 SCOPE – ROOM 126 – ACM NOTES:

A) Owner will remove any unfastened equipment, furniture, supplies, etc., as necessary for GC/AC to complete the work.

B) Disturbance of LBP is not anticipated in this area.

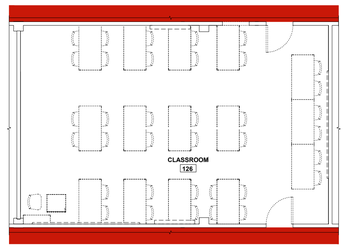
C) If selective demolition activities are necessary and are likely to result in disturbance of asbestos or LBP, they should be conducted using the same controls and methods required for asbestos or LBP removal, respectively.

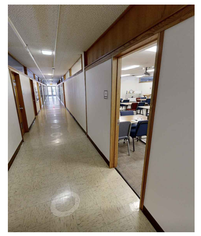
D) ACM vinyl floor tiles and black mastic observed in the hallways adjacent to Room 126. AC to coordinate with GC to determine areas where these materials must be removed, if any, to complete the project. The intent of the project is to limit abatement and/or disturbance of ACM where feasible.

E) Confirmed or presumed ACM which is non-friable in place (e.g., floor tiles and mastic) may be treated as Category I/II non-friable ACM where removed intact and/or in a non-friable condition. Non-friable ACM which becomes friable (e.g., floor tiles which become significantly broken during removal, and/or mastic that is removed through grinding or bead blasting) must be treated as RACM.

F) Non-asbestos waste materials, if any, may be disposed as general construction debris (with regard to asbestos) if removed from the work area prior to initiation of abatement activities, unless noted otherwise. Non-asbestos materials which are contaminated with asbestos (if any) shall be removed as asbestos during abatement and are NOT to be included in the general construction waste stream. All asbestos waste shall be transported and properly disposed by AC as asbestos special waste, as discussed in the General Notes.

G) As discussed in the General Notes, clearance requirements will depend on the extents of disturbance and methods employed by AC. In the event ACM remains non-friable during removal, it is anticipated post-abatement clearance monitoring will consist of visual confirmation of completion, at a minimum. However, the Owner may also request collection and analysis of air samples as well, at their option. In the event ACM becomes friable and/or is removed under a DEQ asbestos project permit, post-abatement clearance monitoring will consist of visual and aggressive air sampling., followed by collection and laboratory analysis of floor wipe samples from within and proximate to the work area. Clearance criteria are expected to be as stated in the General Notes Coordinate with PIH.





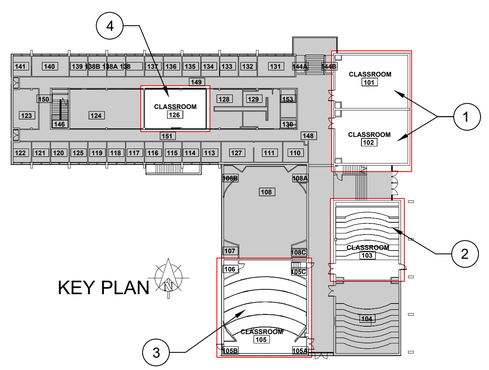
ROOM 126 - ACM FLOOR TILES (AND UNDERLYING MASTIC) IN ADJACENT HALLWAY

NORTH

4 REM02

ALTERNATE #126 SCOPE - ROOM 126 - ACM

KEY PLAN



AWS
AIR WATER SOIL
GREAT FALLS, MT
p 406.315.2201

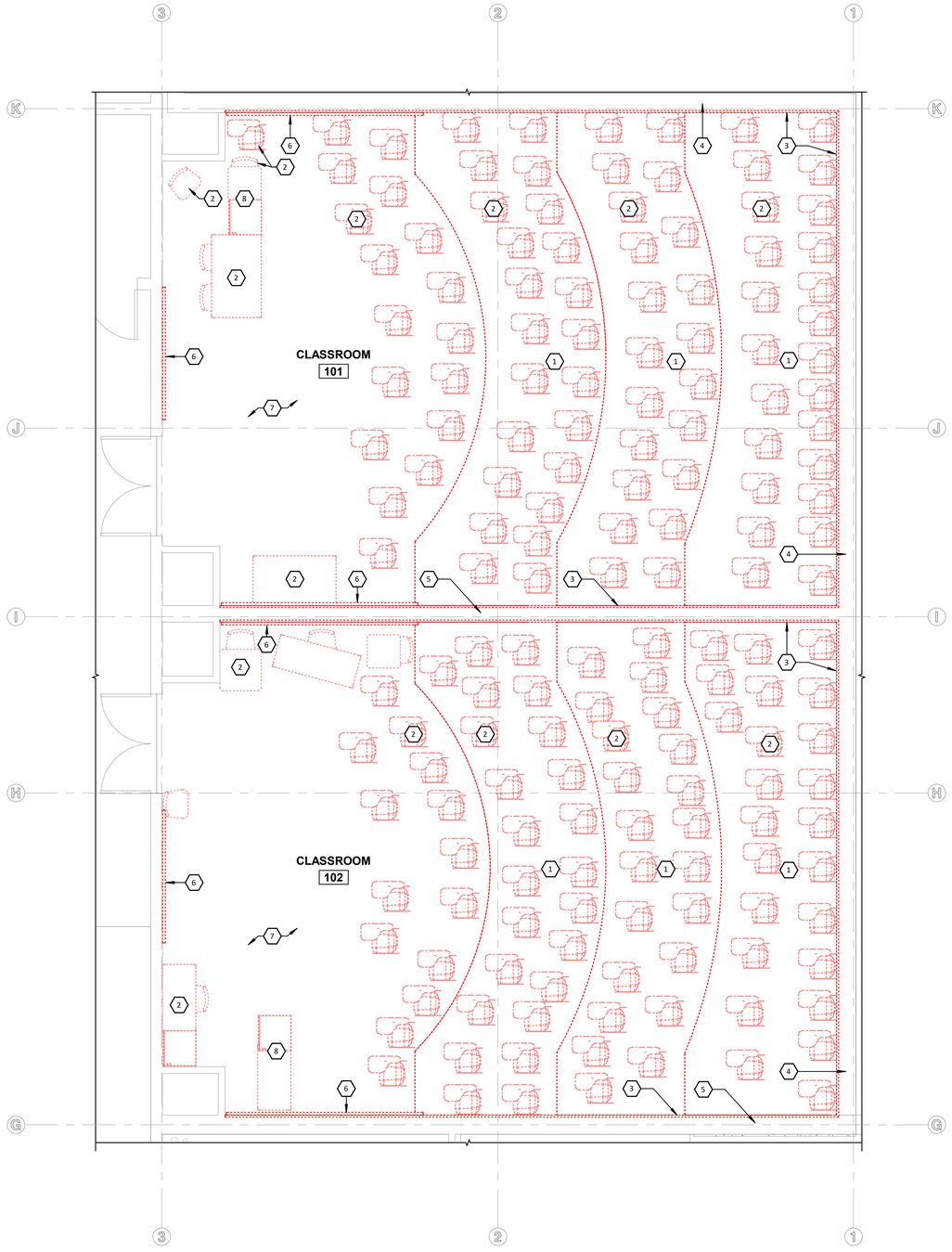
Montana State University, Bozeman, Montana
MSU Reid Hall First Floor - PPA 25-1214 Classroom Renovations 2025-26
Asbestos and Lead-Based Paint Remediation Sheets
Montana State University

12.17.2025
25020-T2

DRAWN BY
DRESCH
CHECKED BY
NSV

ASBESTOS AND LBP REMEDIATION

FIGURE
REM02



1 101/102 DEMO FLOOR PLAN
1/4" = 1'-0"
0 2' 4' 8'

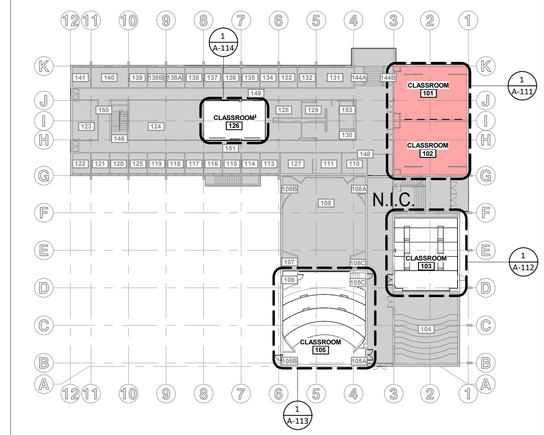
101 APPROX. EXISTING OCCUPANCY: 90 (VIA MATTERPORT) - 13.2 S.F./STUDENT
102 APPROX. EXISTING OCCUPANCY: 90 (VIA MATTERPORT) - 13.2 S.F./STUDENT

GENERAL DEMO PLAN NOTES:

A. SEE G-001 PROJECT TITLE SHEET FOR GENERAL NOTES.
B. PROTECT EXISTING BUILDING OUTSIDE OF THIS SCOPE OF WORK AT ALL TIMES.
C. SEE OTHER SHEETS IN THIS SET FOR ADDITIONAL INFORMATION.
D. CONTRACTOR SHALL INCLUDE CUTTING AND PATCHING FOR ALL INSTANCES WHERE REQUIRED, WHETHER OR NOT SHOWN/ INDICATED ON THESE CONSTRUCTION DOCUMENTS.
E. THE EXISTING BUILDING MAY NOT BE LEVEL AND PLUMB. CONTRACTOR SHALL FIELD VERIFY AND PROVIDE CONCEALED SHIMS, ETC. AS NECESSARY TO MAKE NEW WORK LEVEL AND PLUMB, UNLESS SPECIFICALLY NOTED OTHERWISE.

DEMO FLOOR PLAN KEYNOTES 101/102

1 CAREFULLY REMOVE EXISTING RAISED PLATFORMS, INCLUDING FINISHES, SUPPORTS, AND ANCHORING METHODS, IN ITS ENTIRETY. ENSURE NO ADDITIONAL DAMAGE TO THE ADJACENT MATERIAL OCCURS.
2 ALL FURNITURE LOOSE OR FIXED, TO BE REMOVED. IF LOOSE/FREESTANDING, MSU TO REMOVE PRIOR TO THE START OF CONSTRUCTION. IF FIXED, CONTRACTOR TO REMOVE AND HAND OVER TO MSU.CONTRACTOR TO PATCH ANY FLOOR OR WALL ATTACHMENT POINTS AND TOUCH UP PAINT AS REQUIRED.
3 REMOVE AND DISPOSE OF EXISTING WOOD PANELS AND BASE. CONTRACTOR TO PATCH WALL AND TOUCH UP PAINT AS REQUIRED.
4 EXISTING CONCRETE FOUNDATION AND MASONRY WALL TO REMAIN.
5 EXISTING MASONRY WALL TO REMAIN.CAREFULLY CLEAN USING PROSOCO ENVIRO KLEAN KLEAN 'N RELEASE CLEANER PRODUCT (OR APPROVED EQUAL). FOLLOW MANUFACTURER'S WRITTEN INSTRUCTIONS FOR APPROPRIATE USE AND CLEANING METHOD. REFER TO SPECS.
6 REMOVE EXISTING WHITE BOARDS, SALVAGE AND HAND OVER TO MSU. CONTRACTOR TO PATCH WALL AND TOUCH UP PAINT AS REQUIRED.
7 REMOVE EXISTING FINISH FLOORING AND BASE, RECYCLE WHERE POSSIBLE, DISPOSE OTHERWISE
8 PODIUM TO BE REMOVED AND REUSED. MSU TO REMOVE AND STORE PRIOR TO START OF CONSTRUCTION.



KEY PLAN

JACKOLA ENGINEERING & ARCHITECTURE PLLC
SINCE 1969 P.C.
Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

STATE OF MONTANA
BELGRADE
CHELSEA N. HOLLING
27780
REGISTERED ARCHITECT
LICENSED

BID SET

REID HALL CLASSROOM RENOVATION
MONTANA STATE UNIVERSITY

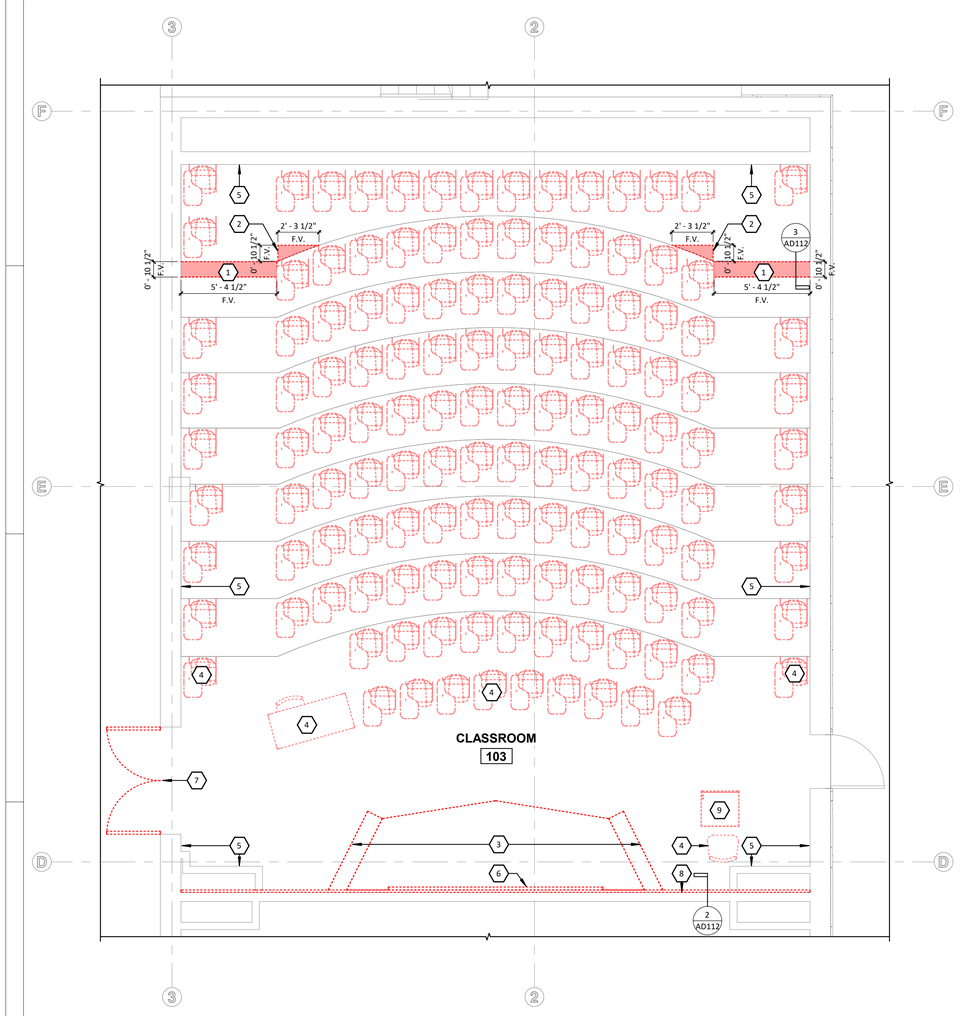
REID HALL,
BOZEMAN, MONTANA 59717
PPA#: 25-1214

DRAWN: RH CHECKED: CH
DATE: 12/17/2025
REVISIONS:

101/102 DEMO FLOOR PLAN

AD111

PROJECT # Project Number



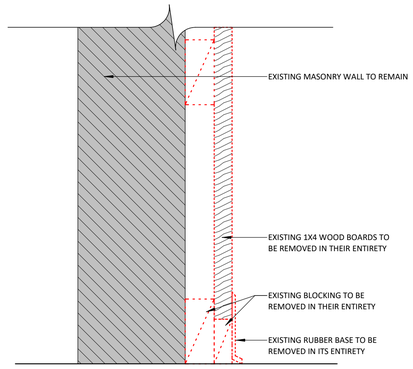
1 103 DEMO FLOOR PLAN

1/4" = 1'-0"

0 2' 4' 8'

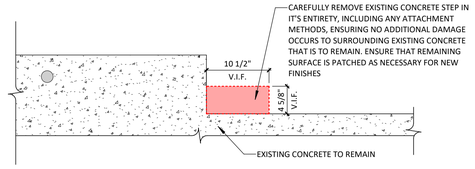
APPROXIMATE EXISTING OCCUPANCY: 134 (VIA MATTERPORT)
10.4 S.F./STUDENT

ENTIRE SHEET IS ADD ALTERNATE #2



2 WOOD WALL - DEMO

3" = 1'-0"



3 EXISTING CONCRETE STAIR REMOVAL

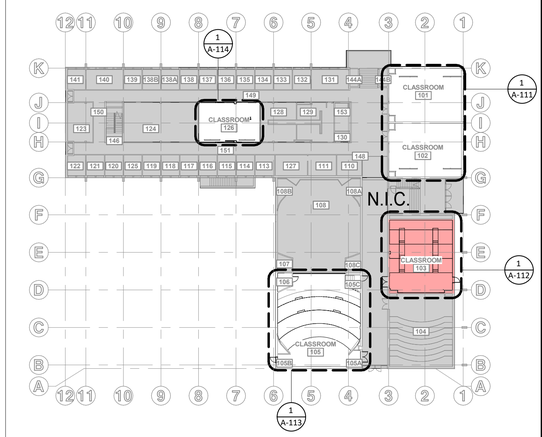
1" = 1'-0"

GENERAL DEMO PLAN NOTES:

A. SEE G-001 PROJECT TITLE SHEET FOR GENERAL NOTES.
B. PROTECT EXISTING BUILDING OUTSIDE OF THIS SCOPE OF WORK AT ALL TIMES.
C. SEE OTHER SHEETS IN THIS SET FOR ADDITIONAL INFORMATION.
D. CONTRACTOR SHALL INCLUDE CUTTING AND PATCHING FOR ALL INSTANCES WHERE REQUIRED, WHETHER OR NOT SHOWN/ INDICATED ON THESE CONSTRUCTION DOCUMENTS.
E. THE EXISTING BUILDING MAY NOT BE LEVEL AND PLUMB. CONTRACTOR SHALL FIELD VERIFY AND PROVIDE CONCEALED SHIMS, ETC. AS NECESSARY TO MAKE NEW WORK LEVEL AND PLUMB, UNLESS SPECIFICALLY NOTED OTHERWISE.

DEMO FLOOR PLAN KEYNOTES 103

1 DEMOLISH CONCRETE RISER WHERE INDICATED, DEPTH 4 5/8" (F.V.); PREP FOR NEW CONCRETE RISERS.
2 DEMOLISH CONCRETE RISER WHERE INDICATED, DEPTH 8 3/8" (F.V.); PREP FOR NEW CONCRETE RISERS.
3 REMOVE EXISTING AND DISPOSE OF WOOD TEACHING PLATFORM. CONTRACTOR TO PATCH ANY FLOOR OR WALL ATTACHMENT POINTS AS REQUIRED.
4 ALL FURNITURE LOOSE OR FIXED, TO BE REMOVED. IF LOOSE/FREESTANDING, MSU TO REMOVE PRIOR TO THE START OF CONSTRUCTION. IF FIXED, CONTRACTOR TO REMOVE AND HAND OVER TO MSU.CONTRACTOR TO PATCH ANY FLOOR OR WALL ATTACHMENT POINTS AS REQUIRED.
5 REMOVE EXISTING TILE BASE AND PREP FOR NEW BASE.EXISTING MASONRY WALL TO REMAIN.CAREFULLY CLEAN USING PROSOCO ENVIRO KLEAN 'N RELEASE CLEANER PRODUCT (OR APPROVED EQUAL). FOLLOW MANUFACTURER'S WRITTEN INSTRUCTIONS FOR APPROPRIATE USE AND CLEANING METHOD.
6 REMOVE EXISTING WHITE BOARDS, SALVAGE AND HAND OVER TO MSU. CONTRACTOR TO PATCH WALL AS REQUIRED.
7 REMOVE AND DISPOSE OF EXISTING DOOR AND HARDWARE. SALVAGE FRAME.
8 REMOVE (E) WOOD WALL/CEILING IN ITS ENTIRETY. SEE 2/AD112.
9 PODIUM TO BE REMOVED AND REUSED. MSU TO REMOVE AND STORE PRIOR TO START OF CONSTRUCTION.



KEY PLAN

JACKOLA ENGINEERING & ARCHITECTURE PLLC
SINCE 1969 P.C.
Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

STATE OF MONTANA
CHELSEA N. HOLLING
27780
REGISTERED ARCHITECT
BELGRADE

BID SET

REID HALL CLASSROOM RENOVATION
MONTANA STATE UNIVERSITY

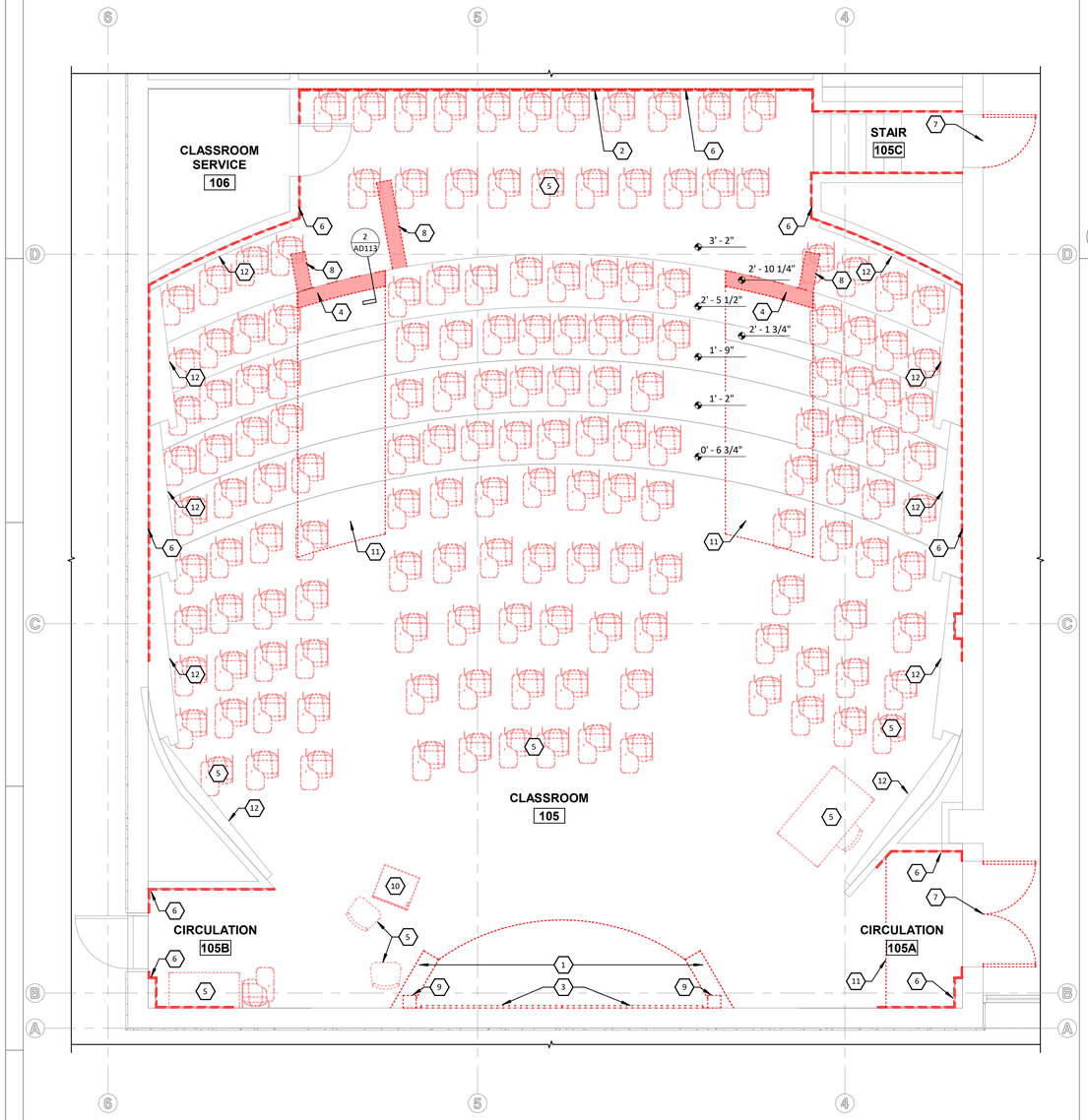
REID HALL,
BOZEMAN, MONTANA 59717
PPA#: 25-1214

DRAWN: RH CHECKED: CH
DATE: 12/17/2025
REVISIONS:

103 DEMO FLOOR PLAN ALT. #2

AD112

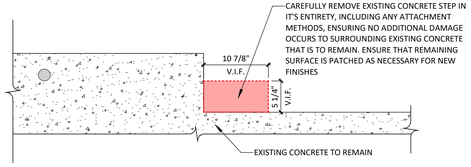
PROJECT # Project Number



1 105 DEMO FLOOR PLAN
1/4" = 1'-0"

APPROXIMATE EXISTING OCCUPANCY: 161 (VIA MATTERPORT)
13.1 S.F./STUDENT

ENTIRE SHEET IS ADD ALTERNATE #1



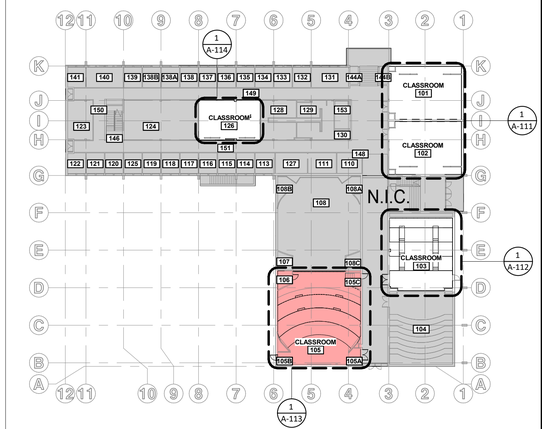
2 EXISTING CONCRETE STAIR REMOVAL
1" = 1'-0"

GENERAL DEMO PLAN NOTES:

A. SEE G-001 PROJECT TITLE SHEET FOR GENERAL NOTES.
B. PROTECT EXISTING BUILDING OUTSIDE OF THIS SCOPE OF WORK AT ALL TIMES.
C. SEE OTHER SHEETS IN THIS SET FOR ADDITIONAL INFORMATION.
D. CONTRACTOR SHALL INCLUDE CUTTING AND PATCHING FOR ALL INSTANCES WHERE REQUIRED, WHETHER OR NOT SHOWN/ INDICATED ON THESE CONSTRUCTION DOCUMENTS.
E. THE EXISTING BUILDING MAY NOT BE LEVEL AND PLUMB. CONTRACTOR SHALL FIELD VERIFY AND PROVIDE CONCEALED SHIMS, ETC. AS NECESSARY TO MAKE NEW WORK LEVEL AND PLUMB, UNLESS SPECIFICALLY NOTED OTHERWISE.

DEMO FLOOR PLAN KEYNOTES 105

1 REMOVE EXISTING AND DISPOSE OF WOOD TEACHING PLATFORM. CONTRACTOR TO PATCH ANY FLOOR OR WALL ATTACHMENT POINTS AS REQUIRED.
2 REMOVE EXISTING ACOUSTICAL WALL TREATMENT. PREP WALL FOR NEW WALL TREATMENT.
3 REMOVE EXISTING WHITE BOARDS, SALVAGE AND HAND OVER TO MSU. CONTRACTOR TO PATCH WALL AS REQUIRED.
4 DEMOLISH EXISTING CONCRETE RISER WHERE INDICATED, DEPTH 5 1/4" (F.V); PREP FOR NEW CONCRETE RISERS. SEE 2/AD-113.
5 ALL FURNITURE LOOSE OR FIXED, TO BE REMOVED. IF LOOSE/FREESTANDING, MSU TO REMOVE PRIOR TO THE START OF CONSTRUCTION. IF FIXED, CONTRACTOR TO REMOVE AND HAND OVER TO MSU.CONTRACTOR TO PATCH ANY FLOOR OR WALL ATTACHMENT POINTS AS REQUIRED.
6 REMOVE EXISTING TILE BASE AND PREP FOR NEW BASE.
7 REMOVE AND DISPOSE OF EXISTING DOOR AND HARDWARE. SALVAGE FRAME.
8 REMOVE PORTION OF (E) CONCRETE SLAB FOR NEW ELECTRICAL CONDUIT PATHWAY TO FLOOR BOX FOR POWERED TABLES. CUT TRENCH LARGE AND DEEP ENOUGH TO EFFECTIVELY COMPLETE THE WORK.
9 REMOVE EXISTING WALL MOUNTED SPEAKERS AND MOUNTS. CONTRACTOR TO HAND OVER SPEAKERS AND MOUNTS TO MSU.
10 PODIUM TO BE REMOVED AND REUSED. MSU TO REMOVE AND STORE PRIOR TO START OF CONSTRUCTION.
11 REMOVE EXISTING TILE FLOORING AND PREP FOR NEW FLOORING.
12 CAREFULLY SAND DOWN WOOD COMPONENTS OF EXISTING ACOUSTIC PANELS. PREPARE FOR NEW STAIN AND CLEAR COAT FINISH.



KEY PLAN

JACKOLA ENGINEERING & ARCHITECTURE PLLC
SINCE 1969
Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

STATE OF MONTANA
CHELSEA N. HOLLING
27780
REGISTERED MONTANA ARCHITECT
BELGRADE

BID SET

REID HALL CLASSROOM RENOVATION
MONTANA STATE UNIVERSITY

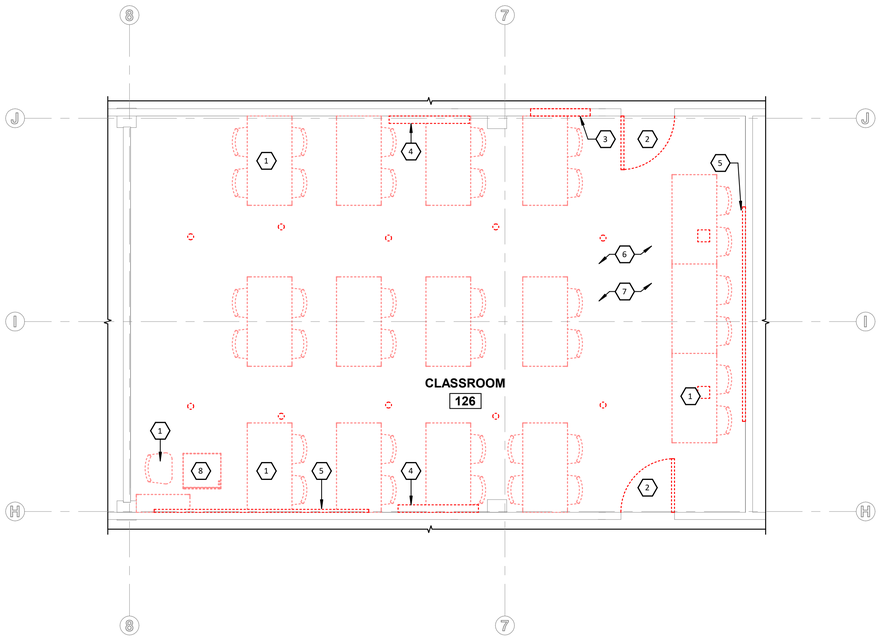
REID HALL,
BOZEMAN, MONTANA 59717
PPA#: 25-1214

DRAWN: RH CHECKED: CH
DATE: 12/17/2025
REVISIONS:

105 DEMO FLOOR PLAN ALT. #1

AD113

PROJECT # Project Number



1 126 DEMO FLOOR PLAN
1/4" = 1'-0"
0 2' 4' 8'

APPROXIMATE EXISTING OCCUPANCY: 37 (VIA MATTERPORT) - 20.5 S.F./STUDENT

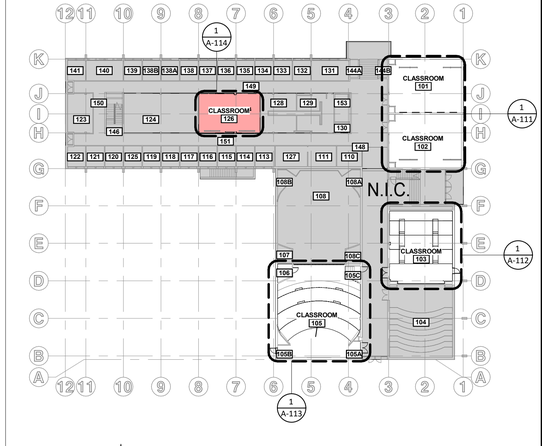
ENTIRE SHEET IS ADD ALTERNATE #3

GENERAL DEMO PLAN NOTES:

A. SEE G-001 PROJECT TITLE SHEET FOR GENERAL NOTES.
B. PROTECT EXISTING BUILDING OUTSIDE OF THIS SCOPE OF WORK AT ALL TIMES.
C. SEE OTHER SHEETS IN THIS SET FOR ADDITIONAL INFORMATION.
D. CONTRACTOR SHALL INCLUDE CUTTING AND PATCHING FOR ALL INSTANCES WHERE REQUIRED, WHETHER OR NOT SHOWN/ INDICATED ON THESE CONSTRUCTION DOCUMENTS.
E. THE EXISTING BUILDING MAY NOT BE LEVEL AND PLUMB. CONTRACTOR SHALL FIELD VERIFY AND PROVIDE CONCEALED SHIMS, ETC. AS NECESSARY TO MAKE NEW WORK LEVEL AND PLUMB, UNLESS SPECIFICALLY NOTED OTHERWISE.

DEMO FLOOR PLAN KEYNOTES 126

1 ALL FURNITURE LOOSE OR FIXED, TO BE REMOVED. IF LOOSE/FREESTANDING, MSU TO REMOVE PRIOR TO THE START OF CONSTRUCTION. IF FIXED, CONTRACTOR TO REMOVE AND HAND OVER TO MSU.CONTRACTOR TO PATCH ANY FLOOR OR WALL ATTACHMENT POINTS AS REQUIRED.
2 DEMOLISH DOOR, FRAME, AND HARDWARE AND DISPOSE OF. PREPARE WALL FOR INFILL.
3 DEMOLISH PORTION OF WALL TO THE BOTTOM OF THE TRANSOM FOR NEW DOORWAY.
4 REMOVE EXISTING TV SCREEN AND MOUNT, SALVAGE AND HAND OVER TO MSU. CONTRACTOR TO PATCH WALL AS REUIRED.
5 REMOVE EXISTING WHITE BOARDS, SALVAGE AND HAND OVER TO MSU. CONTRACTOR TO PATCH WALL AS REQUIRED.
6 REMOVE EXISTING FINISH FLOORING, RECYCLE WHERE POSSIBLE, DISPOSE OTHERWISE
7 ALL EXISTING FLOOR BOXES TO BE ABANDONED.
8 PODIUM TO BE REMOVED AND REUSED. MSU TO REMOVE AND STORE PRIOR TO START OF CONSTRUCTION.



KEY PLAN

JACKOLA ENGINEERING & ARCHITECTURE
SINCE 1969 P.C.
Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

STATE OF MONTANA
CHELSEA N. HOLLING
27780
REGISTERED ARCHITECT
BELGRADE

BID SET

REID HALL CLASSROOM RENOVATION
MONTANA STATE UNIVERSITY

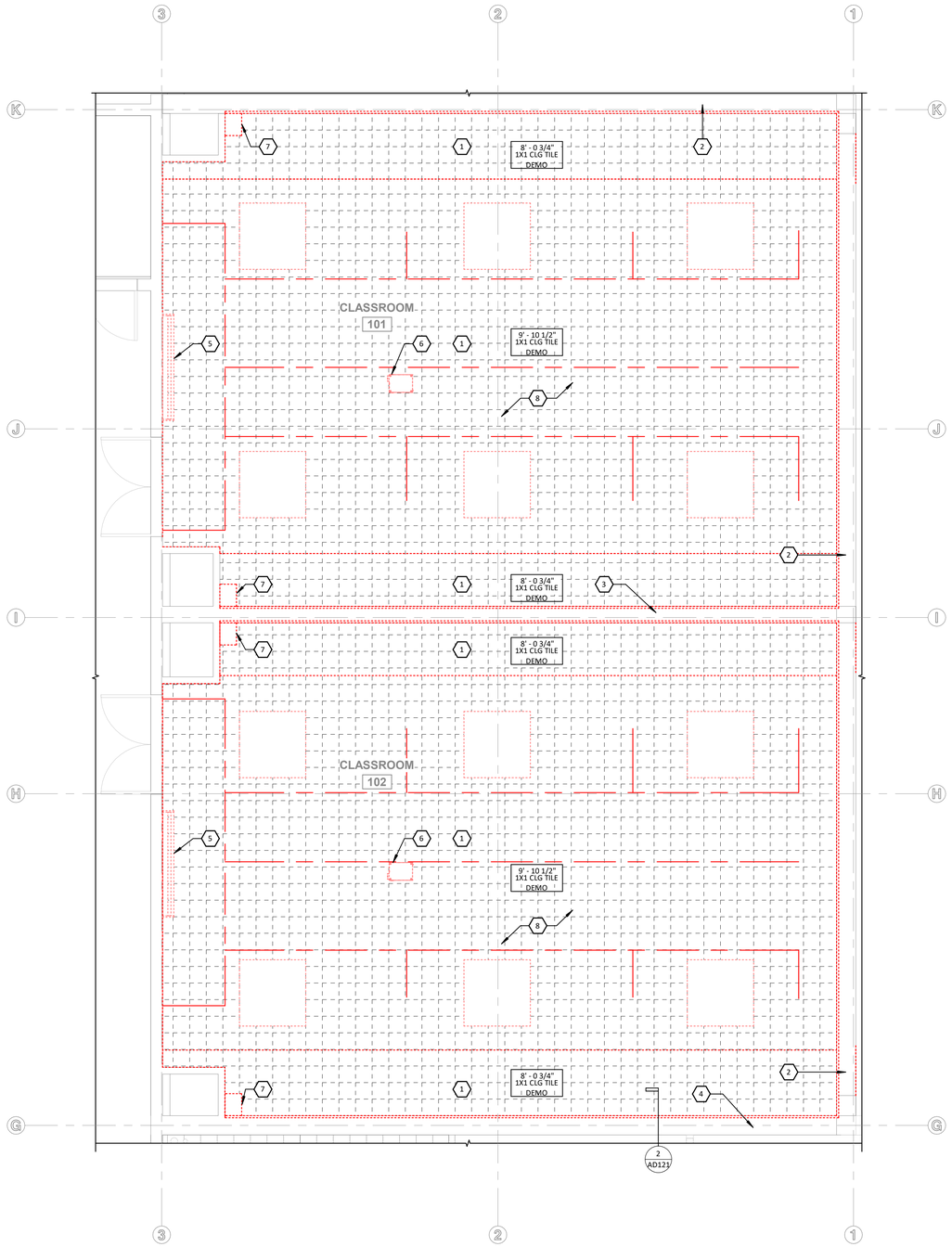
REID HALL,
BOZEMAN, MONTANA 59717
PPA#: 25-1214

DRAWN: RH CHECKED: CH
DATE: 12/17/2025
REVISIONS:

126 DEMO FLOOR PLAN ALT. #3

AD114

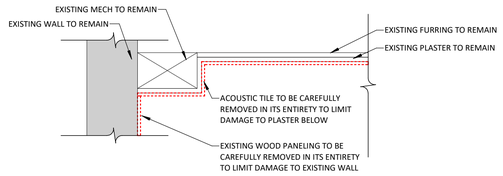
PROJECT # Project Number



1 101/102 REFLECTED CEILING DEMO PLAN

1/4" = 1'-0"

0 2' 4' 8'



2 EXISTING CEILING TILE REMOVAL

1" = 1'-0"

GENERAL DEMO PLAN NOTES:

A. SEE G-001 PROJECT TITLE SHEET FOR GENERAL NOTES.
B. PROTECT EXISTING BUILDING OUTSIDE OF THIS SCOPE OF WORK AT ALL TIMES.
C. SEE OTHER SHEETS IN THIS SET FOR ADDITIONAL INFORMATION.
D. CONTRACTOR SHALL INCLUDE CUTTING AND PATCHING FOR ALL INSTANCES WHERE REQUIRED, WHETHER OR NOT SHOWN/ INDICATED ON THESE CONSTRUCTION DOCUMENTS.
E. THE EXISTING BUILDING MAY NOT BE LEVEL AND PLUMB. CONTRACTOR SHALL FIELD VERIFY AND PROVIDE CONCEALED SHIMS, ETC. AS NECESSARY TO MAKE NEW WORK LEVEL AND PLUMB, UNLESS SPECIFICALLY NOTED OTHERWISE.
F. REMOVE MSU WIRELESS ACCESS POINTS AND HAND OVER TO UIT.

RCP DEMO KEYNOTES 101/102

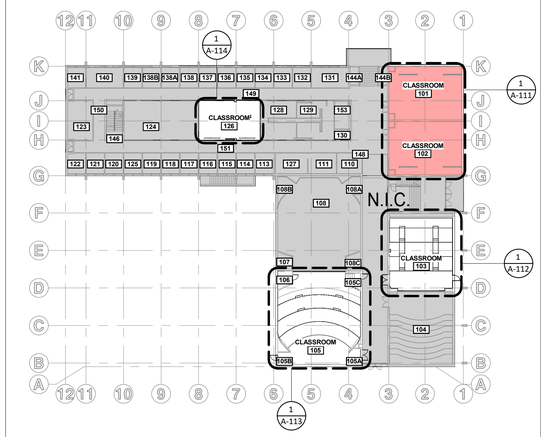
1 EXISTING 1X1 TILE TO BE REMOVED IN ITS ENTIRETY. SEE DETAIL 2/AD-121 FOR CEILING CONDITION.
2 EXISTING CONCRETE FOUNDATION AND MASONRY WALL TO REMAIN.
3 EXISTING CONCRETE WALL TO REMAIN.
4 EXISTING MASONRY WALL TO REMAIN.
5 REMOVE EXISTING WALL MOUNTED MOTORIZED PROJECTOR SCREEN, SALVAGE AND HAND OVER TO MSU.
6 REMOVE EXISTING CEILING MOUNTED PROJECTOR, SALVAGE AND HAND OVER TO MSU.
7 REMOVE EXISTING WALL MOUNTED SPEAKER, SALVAGE AND HAND OVER TO MSU. CONTRACTOR TO PATCH AS REQUIRED.
8 REMOVE ALL EXISTING LIGHT FIXTURES, RECYCLE WHERE POSSIBLE, DISPOSE OTHERWISE.

CEILING PLAN LEGEND

CLG TILE DEMO
1X1 CEILING TILE

EXISTING LIGHT FIXTURE
DEMO

EXISTING SPRINKLER SYSTEM PIPING
DEMO



KEY PLAN

JACKOLA ENGINEERING & ARCHITECTURE
SINCE 1969 P.C.
Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

STATE OF MONTANA
BELGRADE
CHELSEA N. HOLLING
27760
REGISTERED ARCHITECT

BID SET

REID HALL CLASSROOM RENOVATION
MONTANA STATE UNIVERSITY

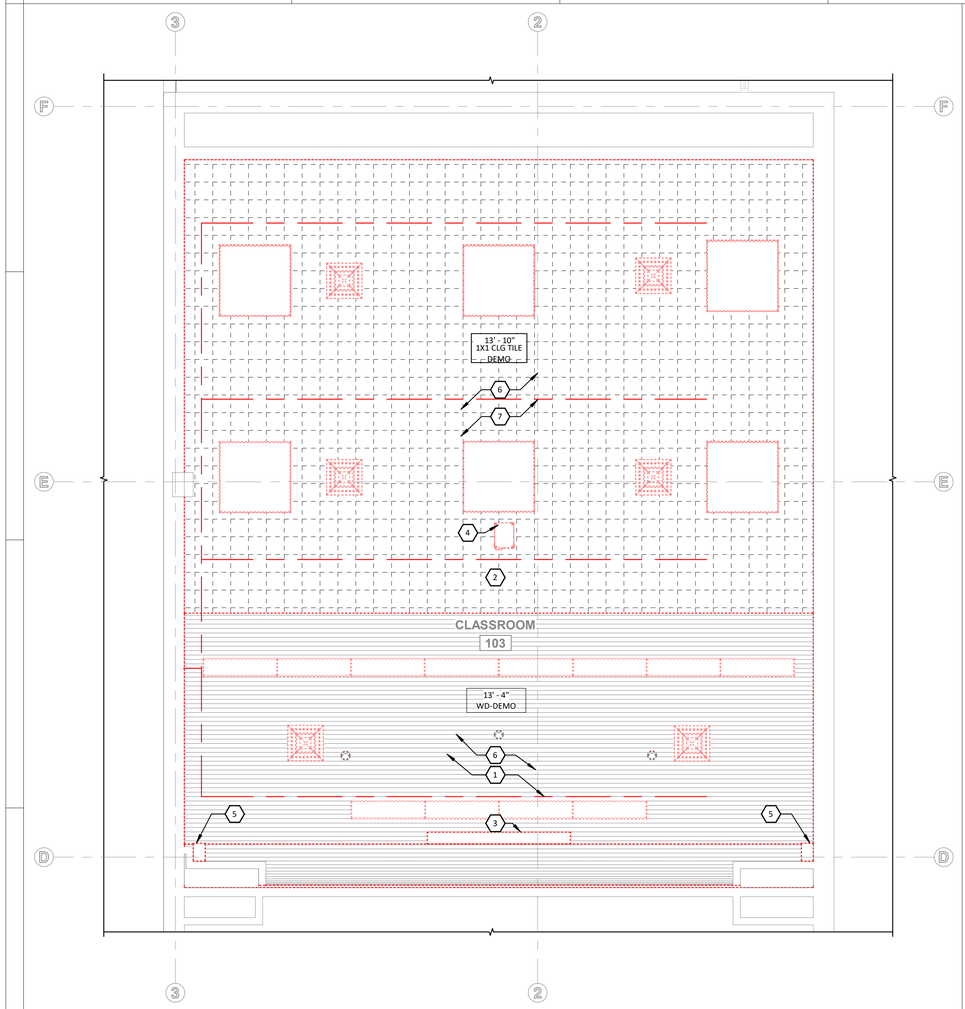
REID HALL,
BOZEMAN, MONTANA 59717
PPA#: 25-1214

DRAWN: RH CHECKED: CH
DATE: 12/17/2025
REVISIONS:

101/102 DEMO REFLECTED CELING PLAN

AD121

PROJECT # Project Number



1 103 REFLECTED CEILING DEMO PLAN

1/4" = 1'-0"

0 2' 4' 8'

ENTIRE SHEET IS ADD ALTERNATE #2

GENERAL DEMO PLAN NOTES:

A. SEE G-001 PROJECT TITLE SHEET FOR GENERAL NOTES.
B. PROTECT EXISTING BUILDING OUTSIDE OF THIS SCOPE OF WORK AT ALL TIMES.
C. SEE OTHER SHEETS IN THIS SET FOR ADDITIONAL INFORMATION.
D. CONTRACTOR SHALL INCLUDE CUTTING AND PATCHING FOR ALL INSTANCES WHERE REQUIRED, WHETHER OR NOT SHOWN/ INDICATED ON THESE CONSTRUCTION DOCUMENTS.
E. THE EXISTING BUILDING MAY NOT BE LEVEL AND PLUMB. CONTRACTOR SHALL FIELD VERIFY AND PROVIDE CONCEALED SHIMS, ETC. AS NECESSARY TO MAKE NEW WORK LEVEL AND PLUMB, UNLESS SPECIFICALLY NOTED OTHERWISE.
F. REMOVE MSU WIRELESS ACCESS POINTS AND HAND OVER TO UIT.

RCP DEMO KEYNOTES 103

1 REMOVE EXISTING WOOD CEILING SYSTEM AND ATTACHMENT METHODS IN THEIR ENTIRETY. CONTRACTOR TO ENSURE EXISTING CEILING ATTACHMENT METHOD IS REMOVED SO THAT THE NEW CEILING MATERIAL CAN BE INSTALLED PROPERLY TO MEET MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS.
2 EXISTING 1X1 TILE TO BE REMOVED IN ITS ENTIRETY. SEE DETAIL 2/AD121 FOR SIMILAR CEILING REMOVAL CONDITION.
3 REMOVE EXISTING WALL MOUNTED MOTORIZED PROJECTOR SCREEN, SALVAGE AND HAND OVER TO MSU.
4 REMOVE EXISTING CEILING MOUNTED PROJECTOR, SALVAGE AND HAND OVER TO MSU.
5 REMOVE EXISTING WALL MOUNTED SPEAKER, SALVAGE AND HAND OVER TO MSU.
6 REMOVE ALL EXISTING LIGHT FIXTURES, RECYCLE WHERE POSSIBLE, DISPOSE OTHERWISE.
7 REMOVE ALL EXISTING DIFFUSERS, RECYCLE WHERE POSSIBLE, DISPOSE OTHERWISE.

CEILING PLAN LEGEND

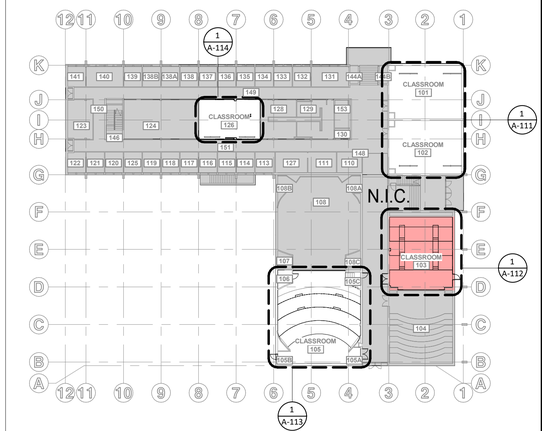
CLG TILE DEMO
1X1 CEILING TILE

WD DEMO
WOOD

EXISTING LIGHT FIXTURE
DEMO

EXISTING SPRINKLER SYSTEM PIPING
DEMO

EXISTING DIFFUSER
DEMO



KEY PLAN

JACKOLA ENGINEERING & ARCHITECTURE
SINCE 1969 P.C.
Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

STATE OF MONTANA
CHELSEA N. HOLLING
27780
REGISTERED ARCHITECT
BELGRADE

BID SET

REID HALL CLASSROOM RENOVATION
MONTANA STATE UNIVERSITY

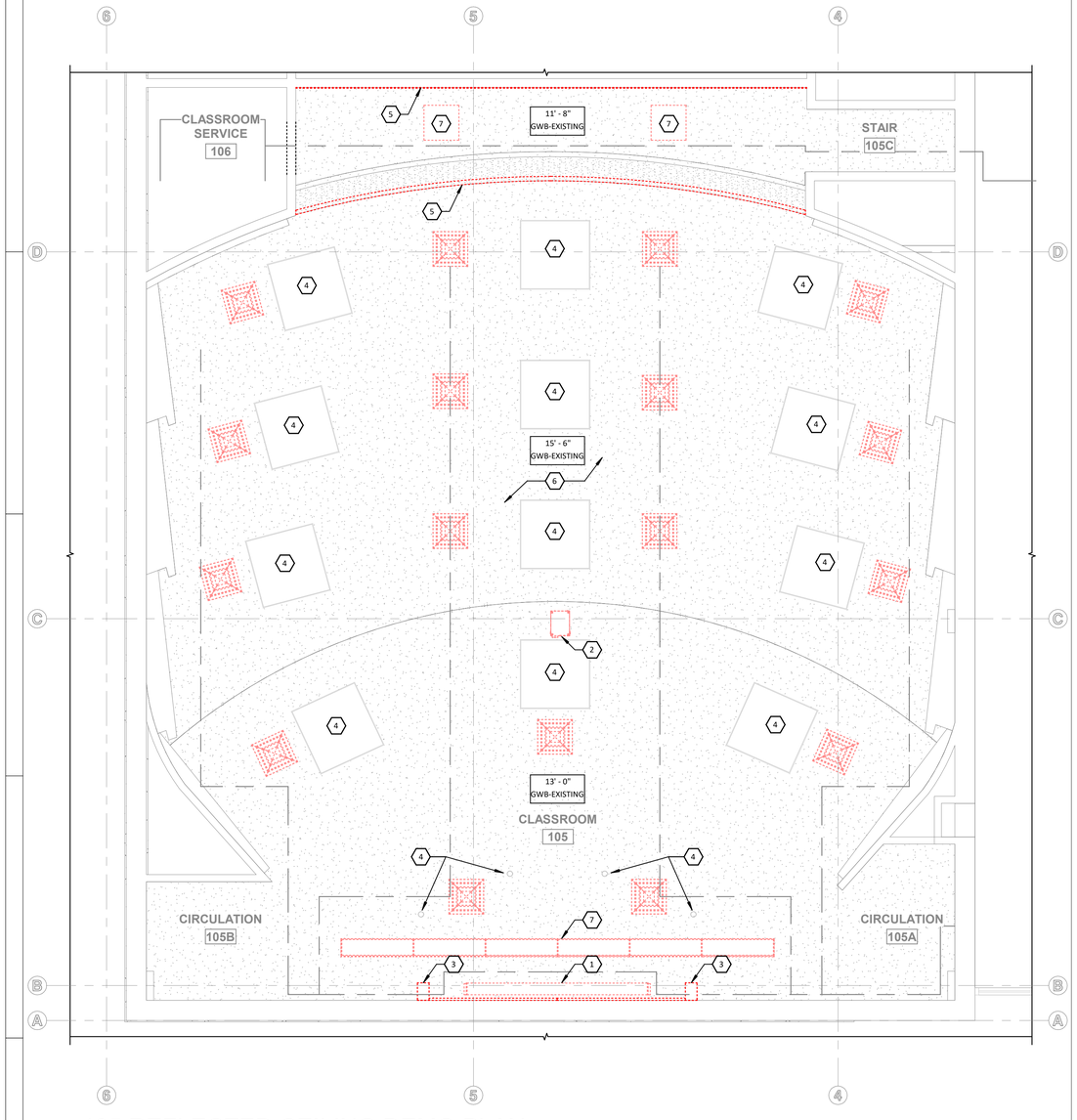
REID HALL,
BOZEMAN, MONTANA 59717
PPA#: 25-1214

DRAWN: RH CHECKED: CH
DATE: 12/17/2025
REVISIONS:

103 DEMO REFLECTED CELING PLAN ALT. #2

AD122

PROJECT # Project Number



1 105 REFLECTED CEILING DEMO PLAN
1/4" = 1'-0"
0 2' 4' 8'

ENTIRE SHEET IS ADD ALTERNATE #1

GENERAL DEMO PLAN NOTES:

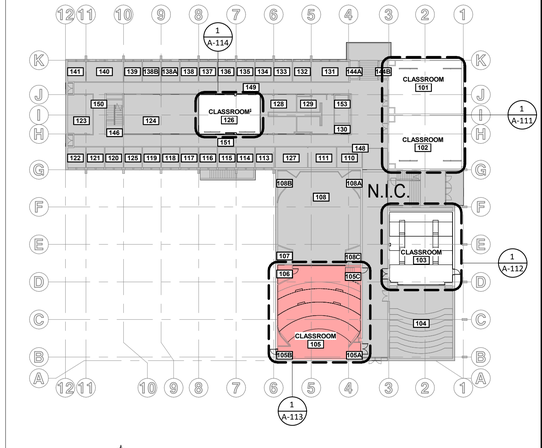
A. SEE G-001 PROJECT TITLE SHEET FOR GENERAL NOTES.
B. PROTECT EXISTING BUILDING OUTSIDE OF THIS SCOPE OF WORK AT ALL TIMES.
C. SEE OTHER SHEETS IN THIS SET FOR ADDITIONAL INFORMATION.
D. CONTRACTOR SHALL INCLUDE CUTTING AND PATCHING FOR ALL INSTANCES WHERE REQUIRED, WHETHER OR NOT SHOWN/ INDICATED ON THESE CONSTRUCTION DOCUMENTS.
E. THE EXISTING BUILDING MAY NOT BE LEVEL AND PLUMB. CONTRACTOR SHALL FIELD VERIFY AND PROVIDE CONCEALED SHIMS, ETC. AS NECESSARY TO MAKE NEW WORK LEVEL AND PLUMB, UNLESS SPECIFICALLY NOTED OTHERWISE.
F. REMOVE MSU WIRELESS ACCESS POINTS AND HAND OVER TO UIT.

RCP DEMO KEYNOTES 105

1 REMOVE EXISTING CEILING MOUNTED MOTORIZED PROJECTOR SCREEN, SALVAGE AND HAND OVER TO MSU. CONTRACTOR TO PATCH CEILING AS REQUIRED.
2 REMOVE EXISTING CEILING MOUNTED PROJECTOR, SALVAGE AND HAND OVER TO MSU. CONTACTOR TO PATCH CEILING AS REQUIRED.
3 REMOVE EXISTING WALL MOUNTED SPEAKER, SALVAGE AND HAND OVER TO MSU. CONTRACTOR TO PATCH AS REQUIRED.
4 EXISTING LIGHT FIXTURES TO REMAIN. REPLACE BULBS AND BALLAST.
5 REMOVE EXISTING ACOUSTICAL WALL TREATMENT. PREP WALL FOR NEW WALL TREATMENT.
6 REMOVE ALL EXISTING DIFFUSERS, RECYCLE WHERE POSSIBLE, DISPOSE OTHERWISE.
7 REMOVE EXISTING LIGHTS. PATCH AS REQUIRED.

CEILING PLAN LEGEND

- EXISTING GWB GYPSUM WALL BOARD REMAINING
- EXISTING LIGHT FIXTURE DEMO
- EXISTING LIGHT FIXTURE REMAINING
- EXISTING SPRINKLER SYSTEM PIPING REMAINING
- EXISTING DIFFUSER DEMO



KEY PLAN

JACKOLA ENGINEERING & ARCHITECTURE
SINCE 1969 P.C.
Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

STATE OF MONTANA
BELGRADE
CHELSEA N. HOLLING
27780
REGISTERED ARCHITECT
LICENSED ARCHITECT

BID SET

REID HALL CLASSROOM RENOVATION
MONTANA STATE UNIVERSITY

REID HALL,
BOZEMAN, MONTANA 59717
PPA#: 25-1214

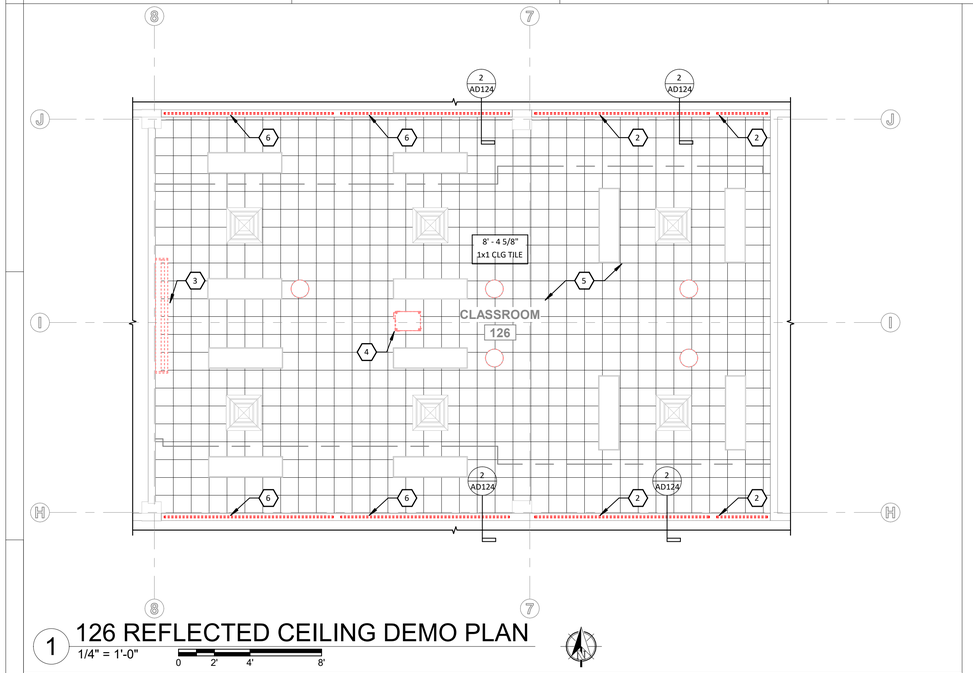
DRAWN: RH CHECKED: CH
DATE: 12/17/2025

REVISIONS:

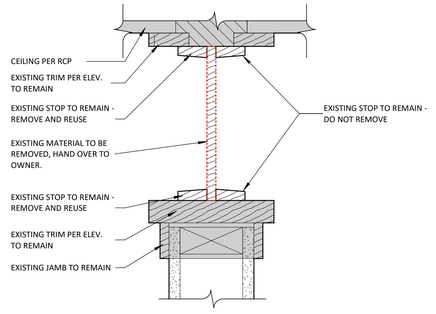
105 DEMO REFLECTED CELING PLAN ALT. #1

AD123

PROJECT # Project Number



1 126 REFLECTED CEILING DEMO PLAN
1/4" = 1'-0"
0 2' 4' 8'



2 TRANSOM DETAIL - DEMO
3" = 1'-0"

ENTIRE SHEET IS ADD ALTERNATE #3

GENERAL DEMO PLAN NOTES:

A. SEE G-001 PROJECT TITLE SHEET FOR GENERAL NOTES.
B. PROTECT EXISTING BUILDING OUTSIDE OF THIS SCOPE OF WORK AT ALL TIMES.
C. SEE OTHER SHEETS IN THIS SET FOR ADDITIONAL INFORMATION.
D. CONTRACTOR SHALL INCLUDE CUTTING AND PATCHING FOR ALL INSTANCES WHERE REQUIRED, WHETHER OR NOT SHOWN/ INDICATED ON THESE CONSTRUCTION DOCUMENTS.
E. THE EXISTING BUILDING MAY NOT BE LEVEL AND PLUMB. CONTRACTOR SHALL FIELD VERIFY AND PROVIDE CONCEALED SHIMS, ETC. AS NECESSARY TO MAKE NEW WORK LEVEL AND PLUMB, UNLESS SPECIFICALLY NOTED OTHERWISE.
F. REMOVE MSU WIRELESS ACCESS POINTS AND HAND OVER TO UIT.

RCP DEMO KEYNOTES 126

1 EXISTING 1X1 TILE TO BE REMOVED IN ITS ENTIRETY. SEE DETAIL 2/AD121 FOR SIMILAR CEILING REMOVAL CONDITION.
2 REMOVE EXISTING PLYWOOD INSIDE TRANSOM FRAME. PROTECT EXISTING FRAME AND SALVAGE STOPS.
3 REMOVE EXISTING WALL MOUNTED MOTORIZED PROJECTOR SCREEN, SALVAGE AND HAND OVER TO MSU.
4 REMOVE EXISTING CEILING MOUNTED PROJECTOR, SALVAGE AND HAND OVER TO MSU.
5 EXISTING LIGHT FIXTURE HOUSING TO REMAIN. SEE ELECTRICAL.
6 REMOVE EXISTING GLAZING INSIDE TRANSOM FRAME. PROTECT EXISTING FRAME AND SALVAGE STOPS.

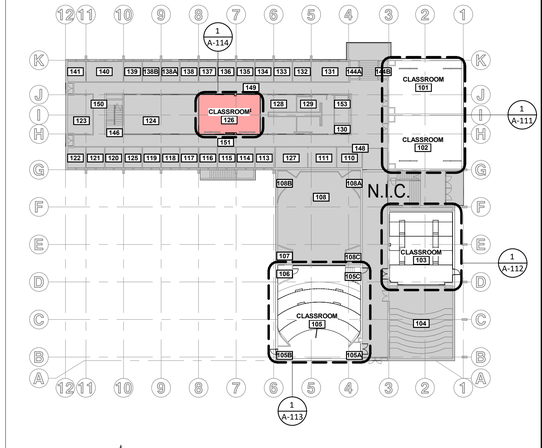
CEILING PLAN LEGEND

CLG TILE
EXISTING 1X1 CEILING TILE REMAINING

EXISTING LIGHT FIXTURE REMAINING

EXISTING SPRINKLER SYSTEM PIPING DEMO

EXISTING SPEAKERS DEMO



KEY PLAN

JACKOLA ENGINEERING & ARCHITECTURE
SINCE 1969 P.C.
Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

STATE OF MONTANA
BELGRADE
CHELSEA N. HOLLING
27760
REGISTERED ARCHITECT

BID SET

REID HALL CLASSROOM RENOVATION
MONTANA STATE UNIVERSITY

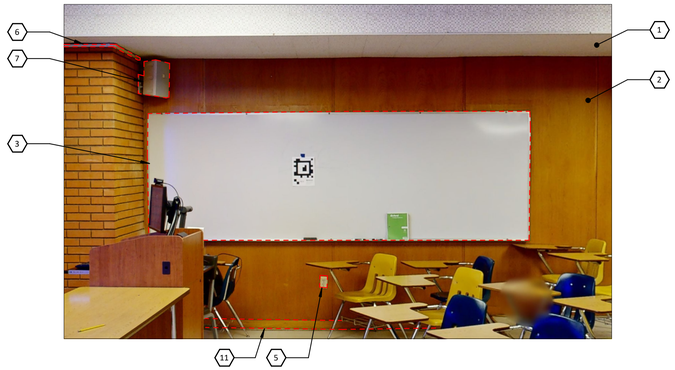
REID HALL,
BOZEMAN, MONTANA 59717
PPA#: 25-1214

DRAWN: RH CHECKED: CH
DATE: 12/17/2025
REVISIONS:

126 DEMO REFLECTED CELING PLAN ALT. #3

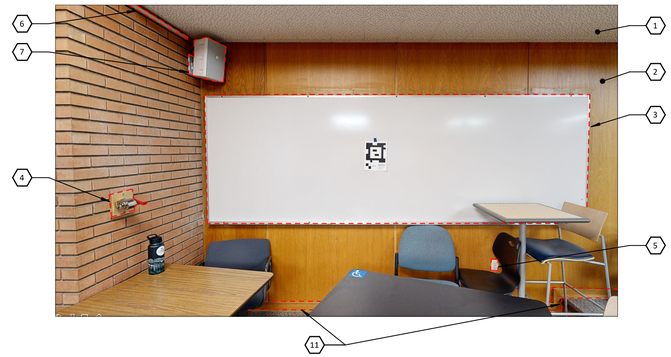
AD124

PROJECT # Project Number



1 DEMO 101 NORTH

NTS



4 DEMO 102 NORTH

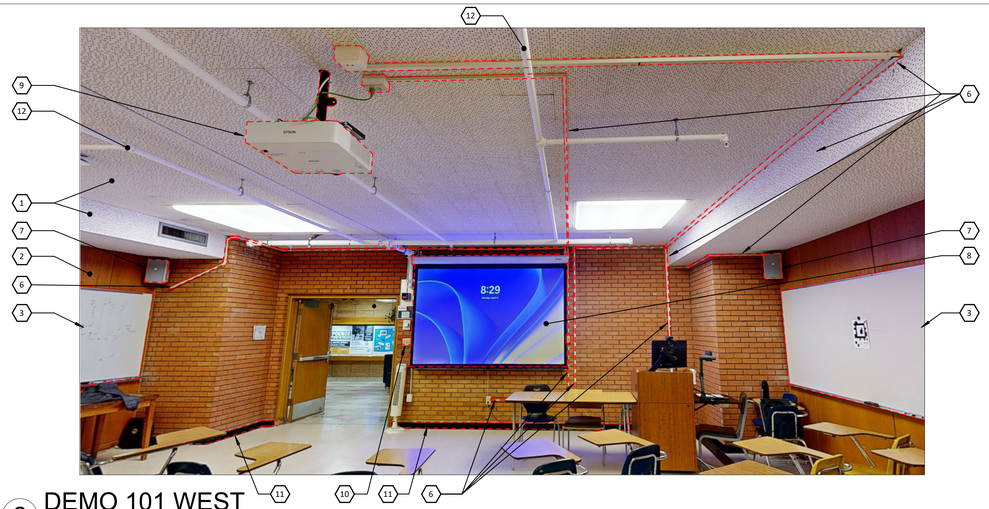
NTS

GENERAL DEMO ELEVATION NOTES:

A. SEE G-001 PROJECT TITLE SHEET FOR GENERAL NOTES.
B. PROTECT EXISTING BUILDING OUTSIDE OF THIS SCOPE OF WORK AT ALL TIMES
C. SEE OTHER SHEETS IN THIS SET FOR ADDITIONAL INFORMATION.
D. CONTRACTOR SHALL INCLUDE CUTTING AND PATCHING FOR ALL INSTANCES WHERE REQUIRED, WHETHER OR NOT SHOWN/ INDICATED ON THESE CONSTRUCTION DOCUMENTS.
E. THE EXISTING BUILDING MAY NOT BE LEVEL AND PLUMB. CONTRACTOR SHALL FIELD VERIFY AND PROVIDE CONCEALED SHIMS, ETC. AS NECESSARY TO MAKE NEW WORK LEVEL AND PLUMB, UNLESS SPECIFICALLY NOTED OTHERWISE.
F. CONDUIT THAT IS DIRECTLY CONNECTED TO COMPONENTS THAT ARE TO BE REMOVED ARE TIED INTO EXISTING ELECTRICAL THAT IS TO REMAIN OR TERMINATES WITHIN THE CEILING. REROUTE OR DEMO PER ELECTRICAL SEE ELECTRICAL.
G. CONTRACTOR TO VERIFY WITH MSU EXISTING CONDUIT PATH AND EQUIPMENT FOLLOWING REMOVAL OF DEVICES BY MSU PRIOR TO DEMO.

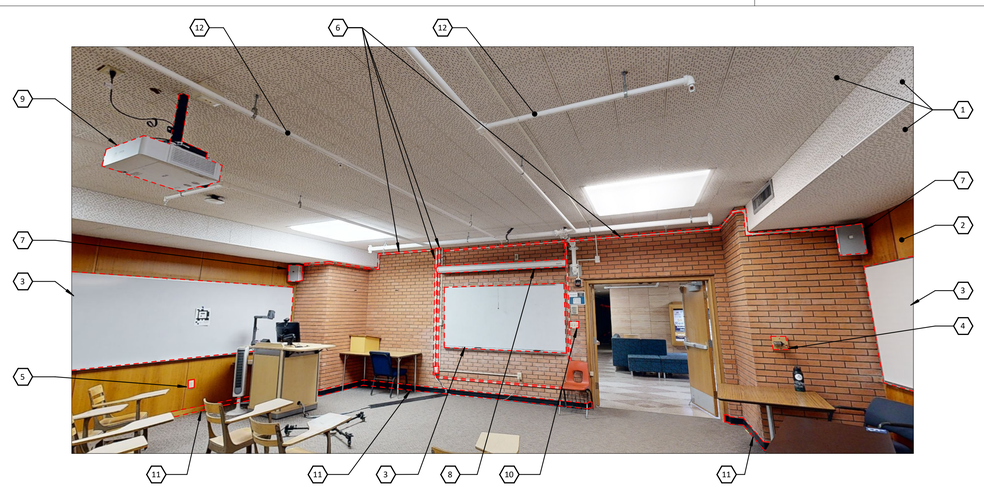
DEMO ELEVATION KEYNOTES 101/102

1 EXISTING 1X1 TILE TO BE REMOVED IN ITS ENTIRETY. SEE DETAIL 2/AD-121 FOR CEILING CONDITION.
2 REMOVE AND DISPOSE OF EXISTING WOOD PANELS AND BASE. CONTRACTOR TO PATCH WALL AS REQUIRED.
3 REMOVE EXISTING WHITE BOARDS, SALVAGE AND HAND OVER TO MSU. CONTRACTOR TO PATCH WALL AS REQUIRED.
4 DEMOLISH PENCIL SHARPENER, HAND OVER TO MSU.
5 REMOVE OUTLET. PREPARE FOR REINSALLATION IN NEW WALL.
6 REMOVE CONDUIT.
7 REMOVE EXISTING WALL MOUNTED SPEAKER, SALVAGE AND HAND OVER TO MSU. CONTRACTOR TO PATCH AS REQUIRED.
8 REMOVE EXISTING WALL MOUNTED MOTORIZED PROJECTOR SCREEN, SALVAGE AND HAND OVER TO MSU.
9 REMOVE EXISTING CEILING MOUNTED PROJECTOR, SALVAGE AND HAND OVER TO MSU.
10 REMOVE LIGHT SWITCH. PATCH AS REQUIRED.
11 REMOVE EXISTING FINISH FLOORING AND BASE, RECYCLE WHERE POSSIBLE, DISPOSE OTHERWISE
12 REMOVE FIRE SUPPRESSION SYSTEM. PREPARE FOR NEW. SEE FIRE PROTECTION SHEETS.



2 DEMO 101 WEST

NTS



5 DEMO 102 SOUTHWEST

NTS

3 DEMO 101 SOUTH

NTS

PROJECT #/Project Number

JACKOLA ENGINEERING & ARCHITECTURE
SINCE 1969 P.C.
Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

STATE OF MONTANA
CHELSEA N. HOLLING
27180
REGISTERED ARCHITECT
BELGRADE, MONTANA

BID SET

REID HALL CLASSROOM RENOVATION
MONTANA STATE UNIVERSITY

REID HALL,
BOZEMAN, MONTANA 59717
PPA#: 25-1214

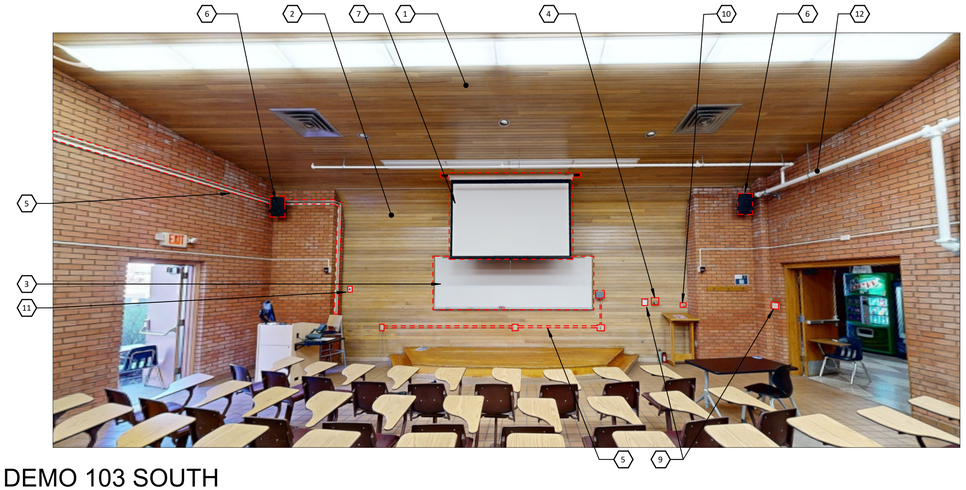
DRAWN: RH CHECKED: CH

DATE: 12/17/2025

REVISIONS:

101/102 DEMO INTERIOR ELEVATIONS

AD211



1 DEMO 103 SOUTH

NTS

2 DEMO 103 EAST

NTS

3 DEMO 103 WEST

NTS

GENERAL DEMO ELEVATION NOTES:

A. SEE G-001 PROJECT TITLE SHEET FOR GENERAL NOTES.
B. PROTECT EXISTING BUILDING OUTSIDE OF THIS SCOPE OF WORK AT ALL TIMES
C. SEE OTHER SHEETS IN THIS SET FOR ADDITIONAL INFORMATION.
D. CONTRACTOR SHALL INCLUDE CUTTING AND PATCHING FOR ALL INSTANCES WHERE REQUIRED, WHETHER OR NOT SHOWN/ INDICATED ON THESE CONSTRUCTION DOCUMENTS.
E. THE EXISTING BUILDING MAY NOT BE LEVEL AND PLUMB. CONTRACTOR SHALL FIELD VERIFY AND PROVIDE CONCEALED SHIMS, ETC. AS NECESSARY TO MAKE NEW WORK LEVEL AND PLUMB, UNLESS SPECIFICALLY NOTED OTHERWISE.
F. CONDUIT THAT IS DIRECTLY CONNECTED TO COMPONENTS THAT ARE TO BE REMOVED ARE TIED INTO EXISTING ELECTRICAL THAT IS TO REMAIN OR TERMINATES WITHIN THE CEILING. REROUTE OR DEMO PER ELECTRICAL SEE ELECTRICAL.
G. CONTRACTOR TO VERIFY WITH MSU EXISTING CONDUIT PATH AND EQUIPMENT FOLLOWING REMOVAL OF DEVICES BY MSU PRIOR TO DEMO.

DEMO ELEVATION KEYNOTES 103

1 REMOVE EXISTING WOOD CEILING SYSTEM AND ATTACHMENT METHODS IN THEIR ENTIRETY. CONTRACTOR TO ENSURE EXISTING CEILING ATTACHMENT METHOD IS REMOVED SO THAT THE NEW CEILING MATERIAL CAN BE INSTALLED PROPERLY TO MEET MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS.
2 REMOVE AND DISPOSE OF EXISTING WOOD PANELS AND BASE. CONTRACTOR TO PATCH WALL AS REQUIRED.
3 REMOVE EXISTING WHITE BOARDS, SALVAGE AND HAND OVER TO MSU. CONTRACTOR TO PATCH WALL AS REQUIRED.
4 DEMOLISH PENCIL SHARPENER, HAND OVER TO MSU.
5 REMOVE CONDUIT.
6 REMOVE EXISTING WALL MOUNTED SPEAKER, SALVAGE AND HAND OVER TO MSU. CONTRACTOR TO PATCH AS REQUIRED.
7 REMOVE EXISTING WALL MOUNTED MOTORIZED PROJECTOR SCREEN, SALVAGE AND HAND OVER TO MSU.
8 REMOVE EXISTING CEILING MOUNTED MOTORIZED PROJECTOR SCREEN, SALVAGE AND HAND OVER TO MSU.
9 REMOVE LIGHT SWITCH. PATCH AS REQUIRED.
10 DEMOLISH HOOK.
11 REMOVE EXISTING THERMOSTAT.
12 REMOVE FIRE SUPPRESSION SYSTEM. PREPARE FOR NEW. SEE FIRE PROTECTION SHEETS.

ENTIRE SHEET IS ADD ALTERNATE #2

JACKOLA ENGINEERING & ARCHITECTURE PC
SINCE 1969
Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

STATE OF MONTANA
CHELSEA N. HOLLING
27780
REGISTERED ARCHITECT
BELGRADE

BID SET

REID HALL CLASSROOM RENOVATION
MONTANA STATE UNIVERSITY

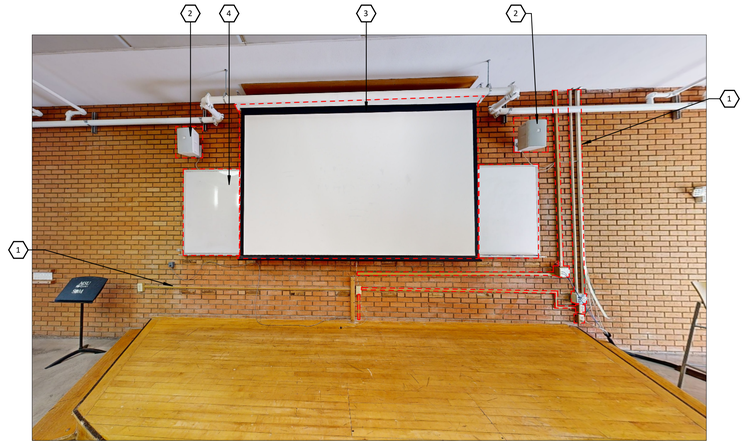
REID HALL,
BOZEMAN, MONTANA 59717
PPA#: 25-1214

DRAWN: RH CHECKED: CH
DATE: 12/17/2025
REVISIONS:

103 DEMO INTERIOR ELEVATIONS ALT. #2

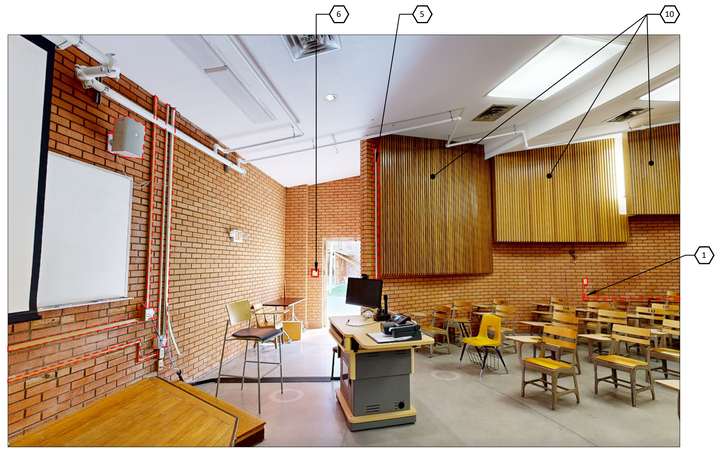
AD212

PROJECT # Project Number

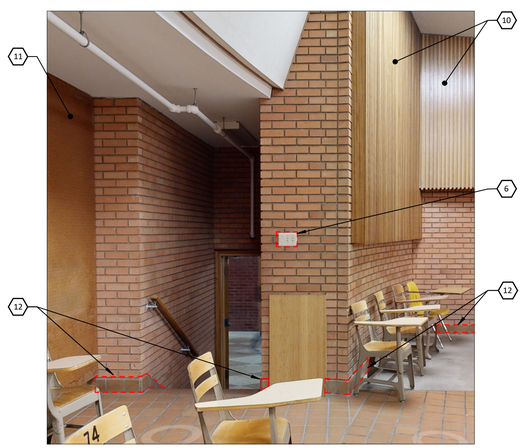


1 DEMO 105 SOUTH
NTS

5 105 DEMO EAST
NTS



2 105 DEMO WEST
NTS



3 105 DEMO NORTH EAST
NTS

GENERAL DEMO ELEVATION NOTES:

A. SEE G-001 PROJECT TITLE SHEET FOR GENERAL NOTES.
B. PROTECT EXISTING BUILDING OUTSIDE OF THIS SCOPE OF WORK AT ALL TIMES
C. SEE OTHER SHEETS IN THIS SET FOR ADDITIONAL INFORMATION.
D. CONTRACTOR SHALL INCLUDE CUTTING AND PATCHING FOR ALL INSTANCES WHERE REQUIRED, WHETHER OR NOT SHOWN/ INDICATED ON THESE CONSTRUCTION DOCUMENTS.
E. THE EXISTING BUILDING MAY NOT BE LEVEL AND PLUMB. CONTRACTOR SHALL FIELD VERIFY AND PROVIDE CONCEALED SHIMS, ETC. AS NECESSARY TO MAKE NEW WORK LEVEL AND PLUMB, UNLESS SPECIFICALLY NOTED OTHERWISE.
F. CONDUIT THAT IS DIRECTLY CONNECTED TO COMPONENTS THAT ARE TO BE REMOVED ARE TIED INTO EXISTING ELECTRICAL THAT IS TO REMAIN OR TERMINATES WITHIN THE CEILING. REROUTE OR DEMO PER ELECTRICAL. SEE ELECTRICAL.
G. CONTRACTOR TO VERIFY WITH MSU EXISTING CONDUIT PATH AND EQUIPMENT FOLLOWING REMOVAL OF DEVICES BY MSU PRIOR TO DEMO.

DEMO ELEVATION KEYNOTES 105

1 REMOVE CONDUIT AND JUNCTION BOXES.
2 REMOVE WALL MOUNTED SPEAKER, SALVAGE AND HAND OVER TO MSU. CONTRACTOR TO PATCH AS REQUIRED.
3 REMOVE EXISTING CEILING MOUNTED PROJECTOR SCREEN, SALVAGE AND HAND OVER TO MSU.
4 REMOVE EXISTING WHITE BOARDS, SALVAGE AND HAND OVER TO MSU. CONTRACTOR TO PATCH WALL AS REQUIRED.
5 REMOVE CONDUIT.
6 REMOVE SWITCH.
7 REMOVE HOOKS.
8 REMOVE PENCIL SHARPENER, HAND OVER TO MSU.
9 REMOVE ELECTRICAL BOX, WIRE AND HOOKS.
10 CAREFULLY SAND DOWN WOOD COMPONENTS OF EXISTING ACOUSTIC PANELS. PREPARE FOR NEW STAIN AND CLEAR COAT FINISH.
11 REMOVE EXISTING ACOUSTICAL WALL TREATMENT. PREP WALL FOR NEW WALL TREATMENT.
12 REMOVE EXISTING TILE BASE AND PREP FOR NEW BASE.

ENTIRE SHEET IS ADD ALTERNATE #1

JACKOLA ENGINEERING & ARCHITECTURE PLLC
SINCE 1969
Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

STATE OF MONTANA
CHELSEA N. HOLLING
27780
REGISTERED ARCHITECT
BELGRADE

BID SET

REID HALL CLASSROOM RENOVATION
MONTANA STATE UNIVERSITY

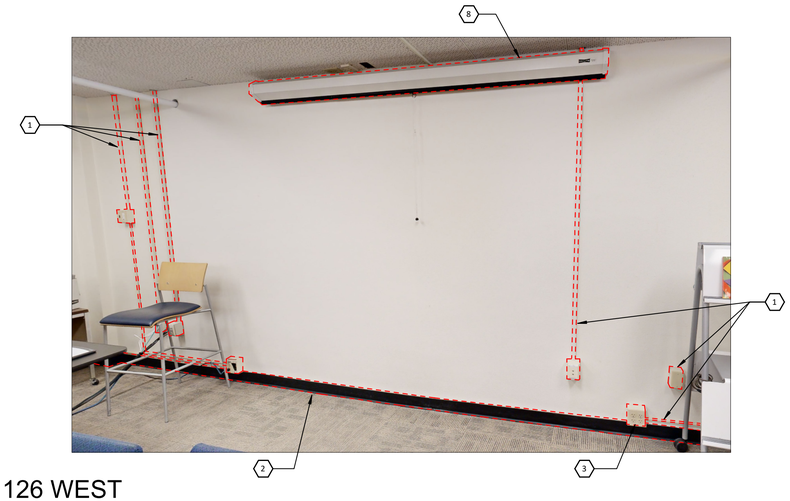
REID HALL,
BOZEMAN, MONTANA 59717
PPA#: 25-1214

DRAWN: RH CHECKED: CH
DATE: 12/17/2025
REVISIONS:

105 DEMO INTERIOR ELEVATIONS ALT. #1

AD213

PROJECT # Project Number

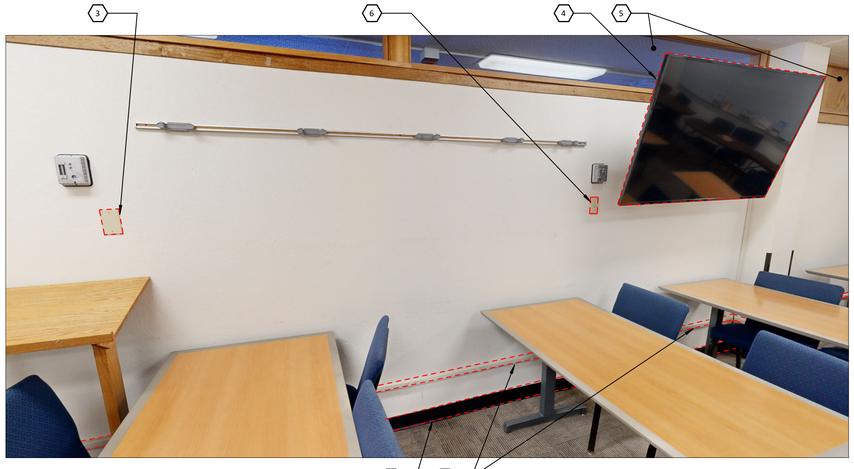


1 DEMO 126 WEST

NTS

4 DEMO 126 SOUTH

NTS



2 DEMO 126 NORTH

NTS

3 DEMO 126 NORTHEAST

NTS

GENERAL DEMO ELEVATION NOTES:

A. SEE G-001 PROJECT TITLE SHEET FOR GENERAL NOTES.
B. PROTECT EXISTING BUILDING OUTSIDE OF THIS SCOPE OF WORK AT ALL TIMES
C. SEE OTHER SHEETS IN THIS SET FOR ADDITIONAL INFORMATION.
D. CONTRACTOR SHALL INCLUDE CUTTING AND PATCHING FOR ALL INSTANCES WHERE REQUIRED, WHETHER OR NOT SHOWN/ INDICATED ON THESE CONSTRUCTION DOCUMENTS.
E. THE EXISTING BUILDING MAY NOT BE LEVEL AND PLUMB. CONTRACTOR SHALL FIELD VERIFY AND PROVIDE CONCEALED SHIMS, ETC. AS NECESSARY TO MAKE NEW WORK LEVEL AND PLUMB, UNLESS SPECIFICALLY NOTED OTHERWISE.
F. CONDUIT THAT IS DIRECTLY CONNECTED TO COMPONENTS THAT ARE TO BE REMOVED ARE TIED INTO EXISTING ELECTRICAL THAT IS TO REMAIN OR TERMINATES WITHIN THE CEILING. REROUTE OR DEMO PER ELECTRICAL. SEE ELECTRICAL.
G. CONTRACTOR TO VERIFY WITH MSU EXISTING CONDUIT PATH AND EQUIPMENT FOLLOWING REMOVAL OF DEVICES BY MSU PRIOR TO DEMO.

DEMO ELEVATION KEYNOTES 126

1 REMOVE CONDUIT AND JUNCTION BOXES.
2 REMOVE EXISTING FINISH FLOORING AND BASE, RECYCLE WHERE POSSIBLE, DISPOSE OTHERWISE
3 REMOVE OUTLET
4 REMOVE EXISTING WALL MOUNTED TV, SALVAGE AND HAND OVER TO MSU.
5 REMOVE AND PREPARE FOR NEW GLAZING. SEE DETAILS.
6 REMOVE LIGHTSWITCH
7 REMOVE EXISTING WHITE BOARDS, SALVAGE AND HAND OVER TO MSU. CONTRACTOR TO PATCH WALL AS REQUIRED.

ENTIRE SHEET IS ADD ALTERNATE #3

JACKOLA ENGINEERING & ARCHITECTURE
SINCE 1969 P.C.
Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

STATE OF MONTANA
BELGRADE
CHELSEA N. HOLLING
27780
REGISTERED ARCHITECT

BID SET

REID HALL CLASSROOM RENOVATION
MONTANA STATE UNIVERSITY

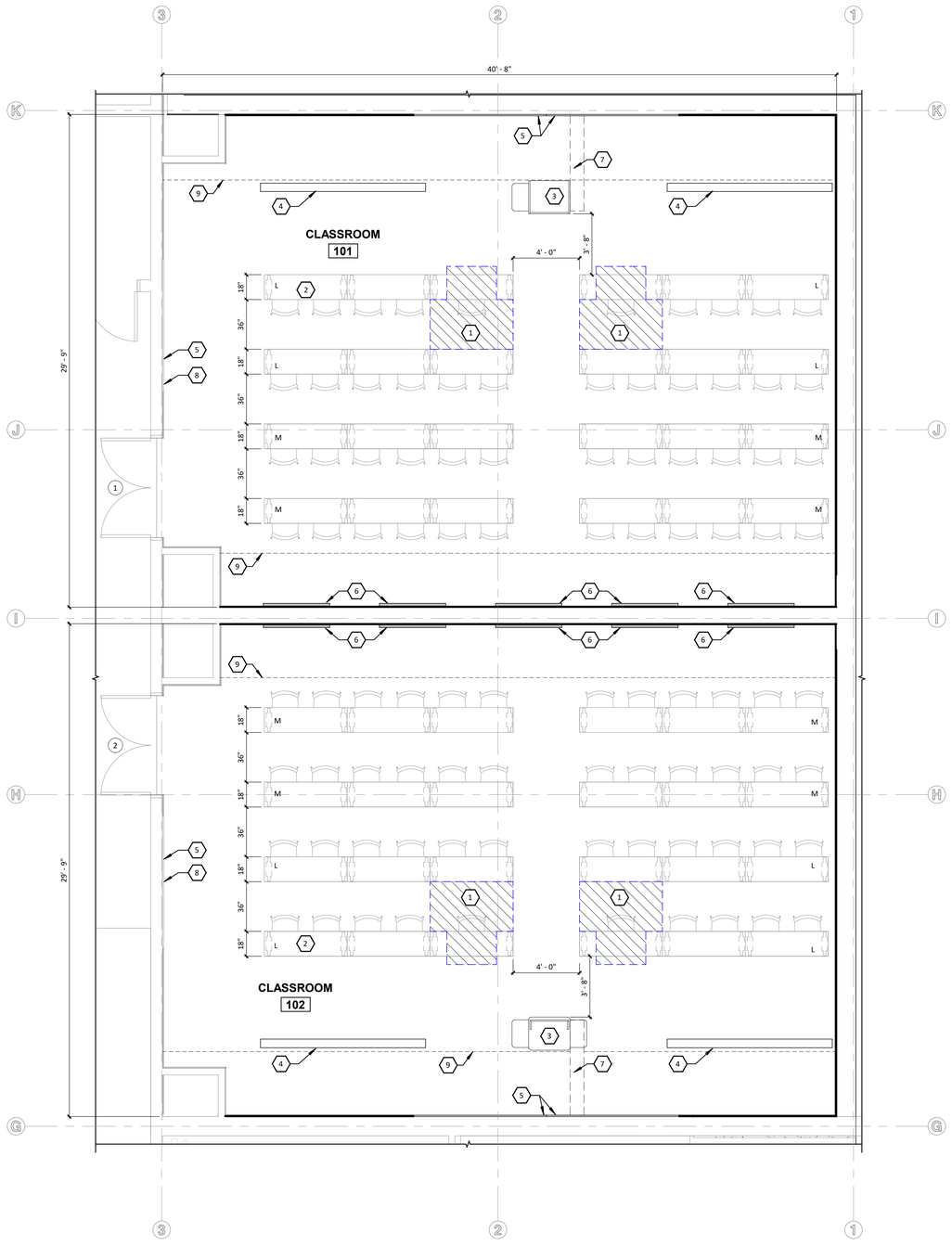
REID HALL,
BOZEMAN, MONTANA 59717
PPA#: 25-1214

DRAWN: RH CHECKED: CH
DATE: 12/17/2025
REVISIONS:

126 DEMO INTERIOR ELEVATIONS ALT. #3

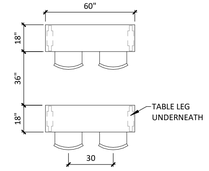
AD214

PROJECT # Project Number



1 101/102 FLOOR PLAN
1/4" = 1'-0"
0 2' 4' 8'

101 OCCUPANCY: 47 - 25.4 S.F./STUDENT
102 OCCUPANCY: 47 - 25.1 S.F./STUDENT



MOVABLE TABLES AND SEATING

TABLES: 18" X 60"
TIERED SEATING HEIGHTS:
LOW - 29" A.F.F.
MEDIUM - 36" A.F.F.

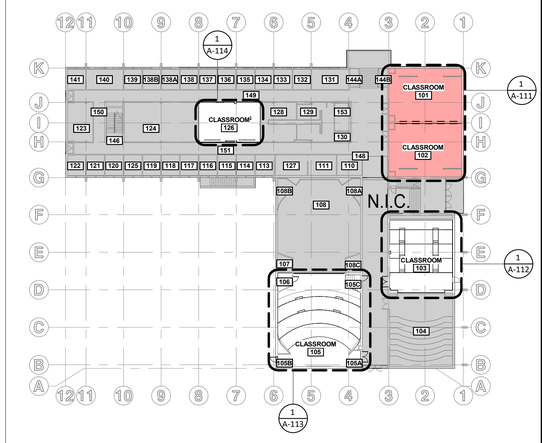
2 FURNITURE KEY
1/4" = 1'-0"

GENERAL FLOOR PLAN NOTES:

A. SEE G-001 PROJECT TITLE SHEET FOR GENERAL NOTES.
B. PROTECT EXISTING BUILDING OUTSIDE OF THIS SCOPE OF WORK AT ALL TIMES
C. SEE OTHER SHEETS IN THIS SET FOR ADDITIONAL INFORMATION.
D. CONTRACTOR SHALL INCLUDE CUTTING AND PATCHING FOR ALL INSTANCES WHERE REQUIRED, WHETHER OR NOT SHOWN/ INDICATED ON THESE CONSTRUCTION DOCUMENTS.
E. THE EXISTING BUILDING MAY NOT BE LEVEL AND PLUMB. CONTRACTOR SHALL FIELD VERIFY AND PROVIDE CONCEALED SHIMS, ETC. AS NECESSARY TO MAKE NEW WORK LEVEL AND PLUMB, UNLESS SPECIFICALLY NOTED OTHERWISE.

FLOOR PLAN KEYNOTES 101/102

1 ADA ACCESSIBLE LOCATION
2 ALL FURNITURE CFCI. BASIS OF DEISGN: SEDIA SYSTEMS
3 HEIGHT ADJUSTABLE INSTRUCTOR STATION WITH DEDICATED COMPUTER AND CONNECTIONS TO MSU NETWORK.SMART PODIUM LOCATION WILL REQUIRE POWER/NETWORK/AV PATHWAY. SEE ELECTRICAL DRAWINGS.
4 CEILING MOUNTED PROJECTOR SCREENS, MANUAL CONTROL, OFCI.
5 4' X 8' WHITEBOARD, CFCI. NO TRAY. BASIS OF DESIGN: OPTIMA GREAT WHITE MAGNETIC WHITEBOARD.
6 ACOUSTIC WALL PANELS. BASIS OF DESIGN: ARMSTRONG FELTWORKS. SIZE: 4'x4'; COLOR: DARK GREY (FDG). 0.75 NRC
7 ON-FLOOR WIRE RACEWAY, SEE ELECTRICAL.
8 POE CLOCK VISIBLE TO EVERYONE IN ROOM, SEE ELECTRICAL.
9 SOFFIT ABOVE, TYP.



JACKOLA ENGINEERING & ARCHITECTURE
SINCE 1969 P.C.
Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

STATE OF MONTANA
BELGRADE
CHELSEA N. HOLLING
27760
REGISTERED ARCHITECT

BID SET

REID HALL CLASSROOM RENOVATION
MONTANA STATE UNIVERSITY

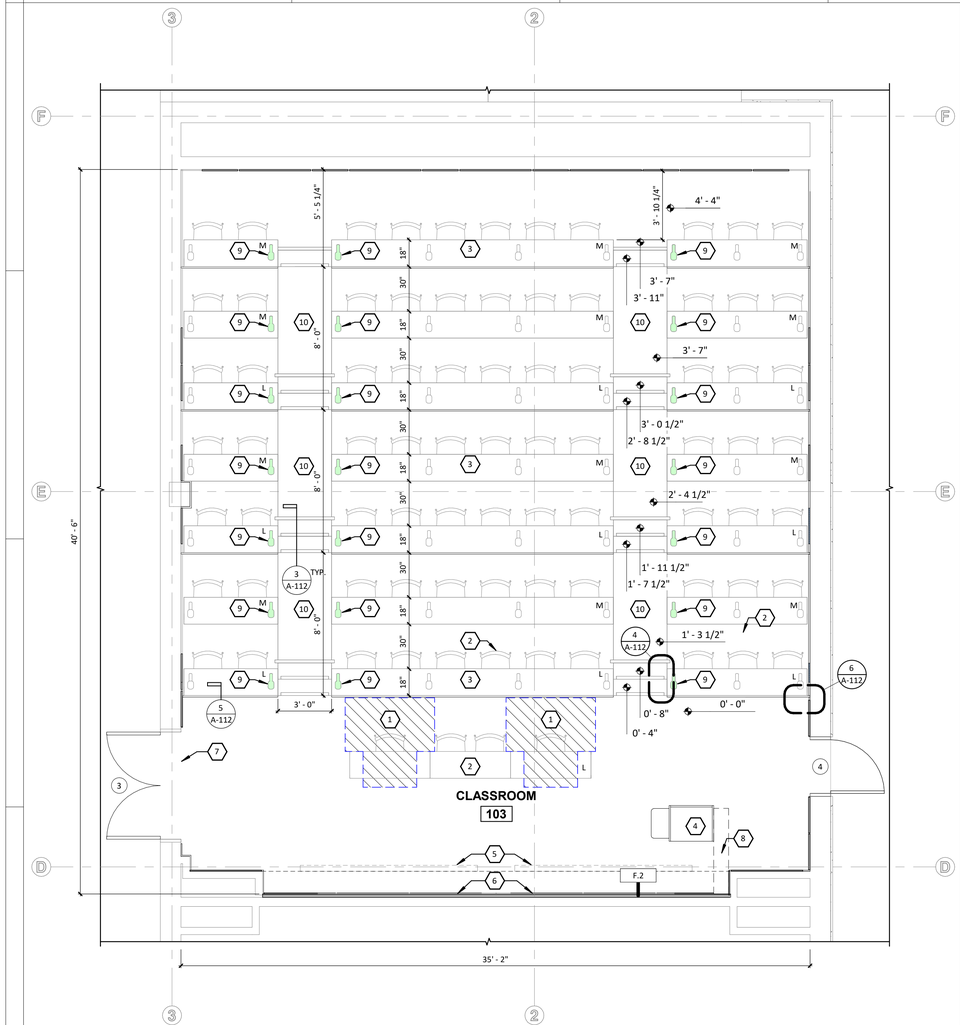
REID HALL,
BOZEMAN, MONTANA 59717
PPA#: 25-1214

DRAWN: RH CHECKED: CH
DATE: 12/17/2025
REVISIONS:

101/102 FLOOR PLAN

A-111

PROJECT # Project Number

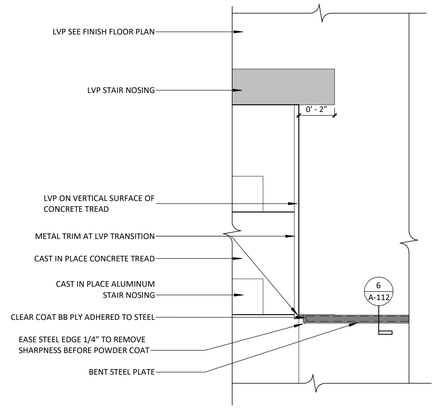


1 103 FLOOR PLAN

1/4" = 1'-0"

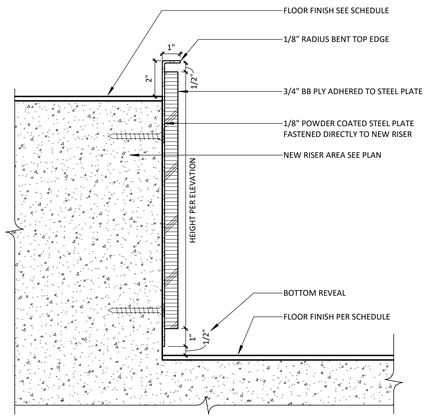
0 2' 4' 8'

OCCUPANCY: 82 - 17.3 S.F. / STUDENT



4 PLAN DETAIL TOP OF STEP

3" = 1'-0"



5 RISER EDGE DETAIL

3" = 1'-0"

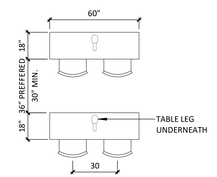
GENERAL FLOOR PLAN NOTES:

A. SEE G-001 PROJECT TITLE SHEET FOR GENERAL NOTES.
B. PROTECT EXISTING BUILDING OUTSIDE OF THIS SCOPE OF WORK AT ALL TIMES
C. SEE OTHER SHEETS IN THIS SET FOR ADDITIONAL INFORMATION.
D. CONTRACTOR SHALL INCLUDE CUTTING AND PATCHING FOR ALL INSTANCES WHERE REQUIRED, WHETHER OR NOT SHOWN/ INDICATED ON THESE CONSTRUCTION DOCUMENTS.
E. THE EXISTING BUILDING MAY NOT BE LEVEL AND PLUMB. CONTRACTOR SHALL FIELD VERIFY AND PROVIDE CONCEALED SHIMS, ETC. AS NECESSARY TO MAKE NEW WORK LEVEL AND PLUMB, UNLESS SPECIFICALLY NOTED OTHERWISE.

FLOOR PLAN KEYNOTES 103

1 ADA ACCESSIBLE LOCATION
2 LOOSE FURNITURE CFCI. BASIS OF DESIGN: SEDIA SYSTEMS.
3 FIXED FURNITURE CFCI. BASIS OF DESIGN: SEDIA SYSTEMS.
4 HEIGHT ADJUSTABLE INSTRUCTOR STATION WITH DEDICATED COMPUTER AND CONNECTIONS TO MSU NETWORK . SMART PODIUM LOCATION WILL REQUIRE POWER/NETWORK/AV PATHWAY. SEE ELECTRICAL DRAWINGS.
5 WALL MOUNTED FIXED PROJECTOR SCREENS, OFCI.
6 10' x 4' FIXED WHITEBOARDS CFCI, NO TRAY. BASIS OF DESIGN: OPTIMA GREAT WHITE MAGNETIC WHITEBOARD.
7 POE CLOCK VISIBLE TO EVERYONE IN ROOM, SEE ELECTRICAL.
8 ON-FLOOR WIRE RACEWAY, SEE ELECTRICAL.
9 POWER STUB-UP AT TABLE LEG. SEE ELECTRICAL.
10 NEW CONCRETE STEPS.

ENTIRE SHEET IS ADD ALTERNATE #2



FIXED TABLES WITH MOVABLE SEATING

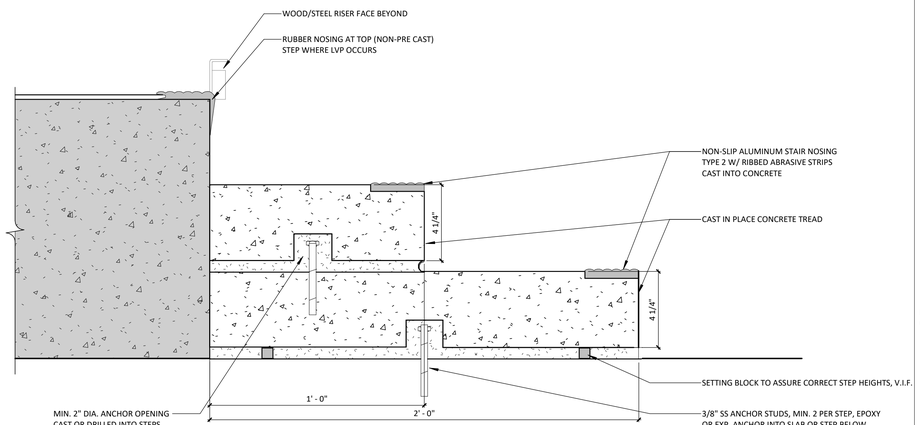
TABLES: 18" X 60"
TIERED SEATING HEIGHTS:
LOW - 29" A.F.F.
MEDIUM - 36" A.F.F.

TABLE LEG:

POWERED TABLE LEG:

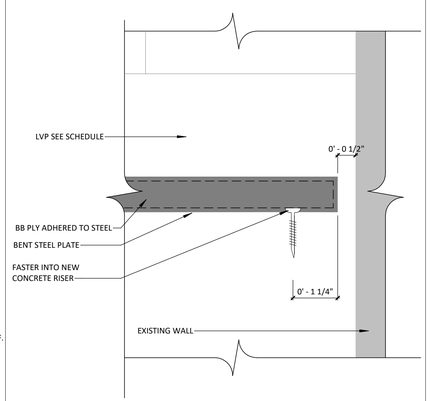
2 FURNITURE KEY

1/4" = 1'-0"



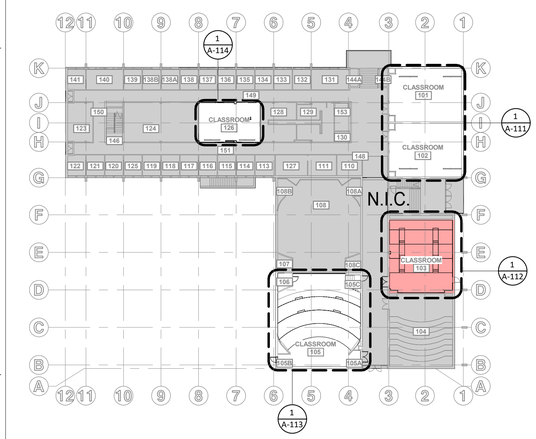
3 TYPICAL STAIR SECTION

3" = 1'-0"



6 STEEL RISER PLATE @ WALL

6" = 1'-0"



KEY PLAN

PROJECT # Project Number

JACKOLA ENGINEERING & ARCHITECTURE PLLC
SINCE 1969
Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

STATE OF MONTANA
CHELSEA N. HOLLING
27760
REGISTERED ARCHITECT
BELGRADE, MONTANA

BID SET

REID HALL CLASSROOM RENOVATION
MONTANA STATE UNIVERSITY

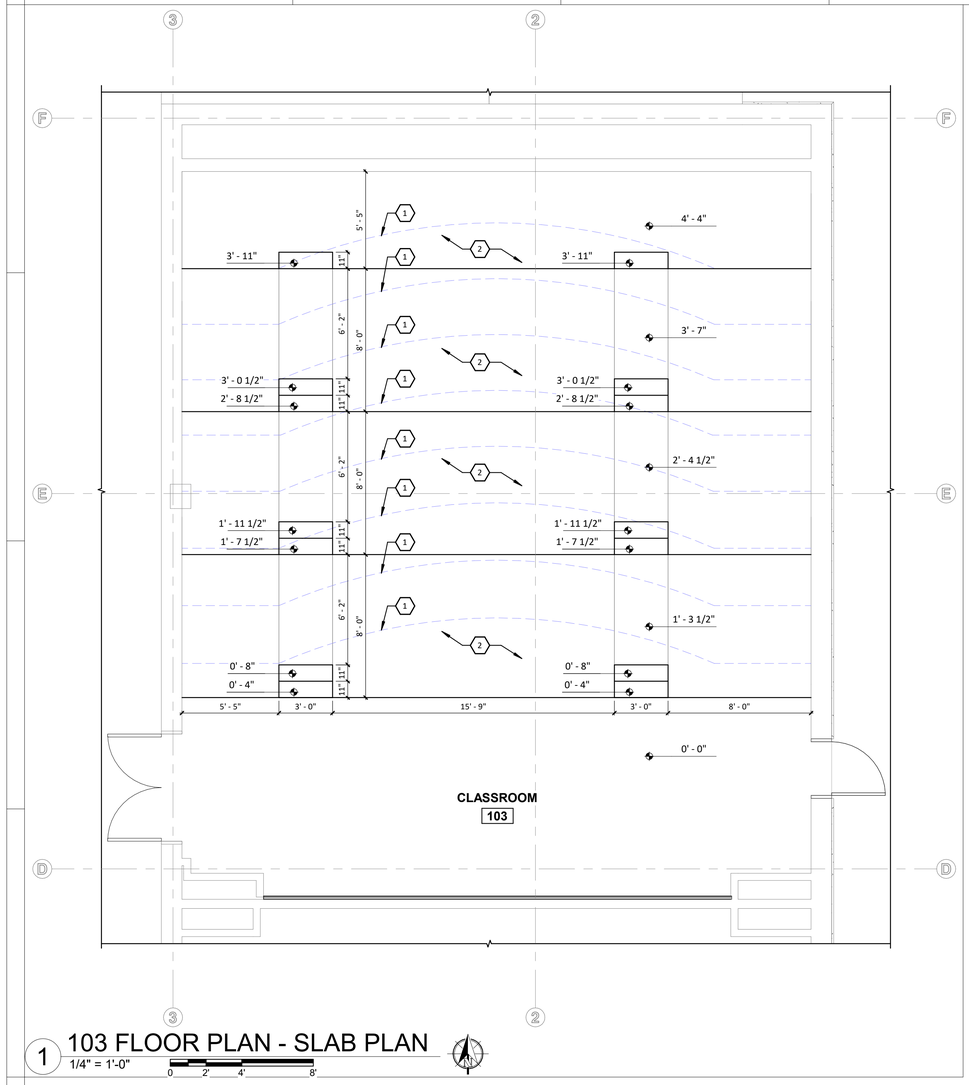
REID HALL,
BOZEMAN, MONTANA 59717
PPA#: 25-1214

DRAWN: RH CHECKED: CH
DATE: 12/17/2025

REVISIONS:

103 FLOOR PLAN ALT. #2

A-112



1 103 FLOOR PLAN - SLAB PLAN

1/4" = 1'-0"

0 2' 4' 8'

GENERAL SLAB PLAN NOTES:

A. SEE AD112 FOR DEMOLITION PLAN.

SLAB PLAN KEYNOTES 103

1 EXISTING RISER.

2 NEW CONCRETE RISER.

JACKOLA ENGINEERING & ARCHITECTURE PLLC
SINCE 1969
Engineering, Architecture, Surveying, Land Use, Planning

KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

STATE OF MONTANA
CHELSEA N. HOLLING
27780
REGISTERED ARCHITECT
BELGRADE, MONTANA

BID SET

REID HALL CLASSROOM RENOVATION
MONTANA STATE UNIVERSITY

REID HALL,
BOZEMAN, MONTANA 59717
PPA#: 25-1214

DRAWN: KE CHECKED: CH

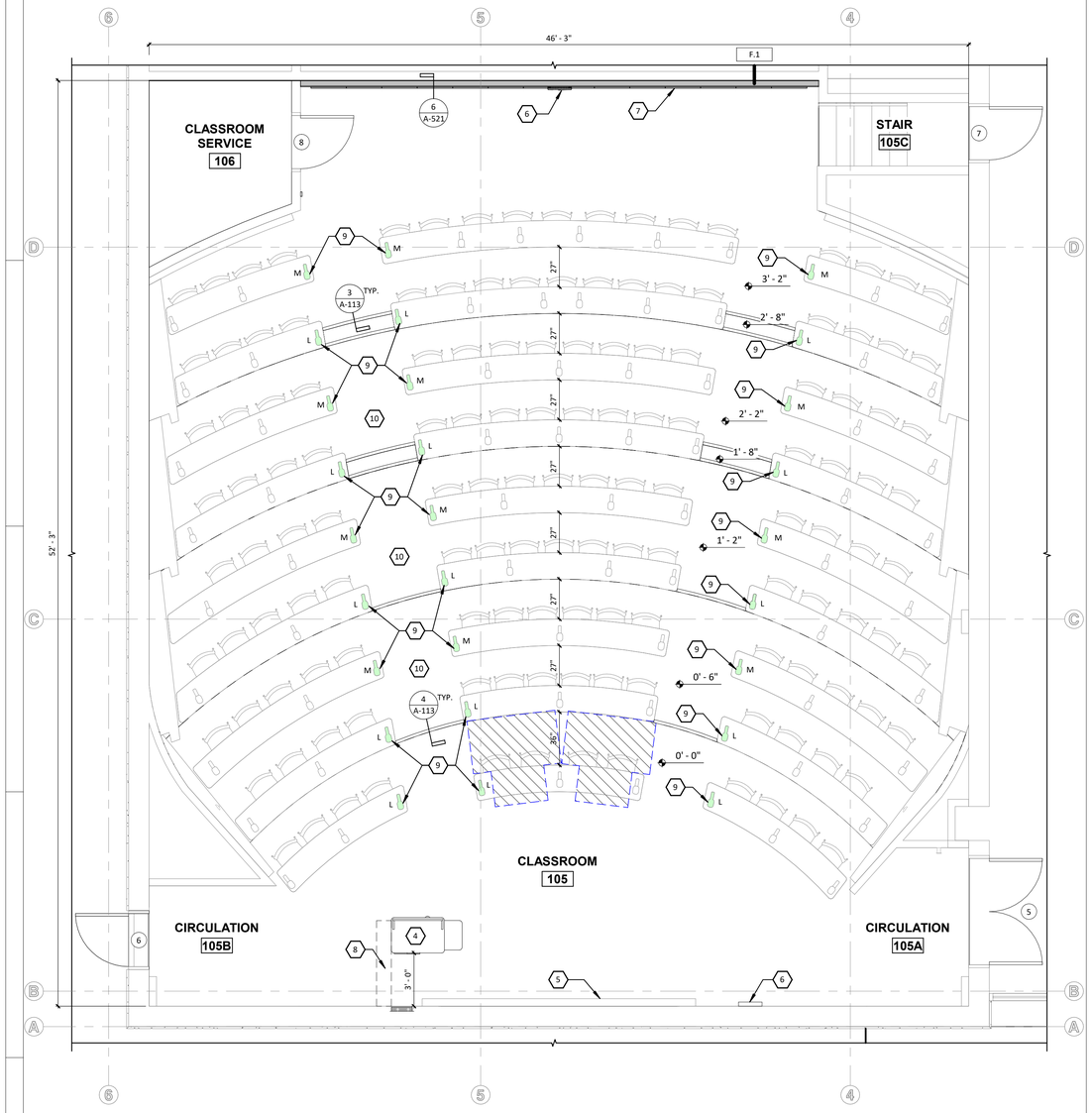
DATE: 12/17/2025

REVISIONS:

103 SLAB PLAN

A-112S

PROJECT # Project Number

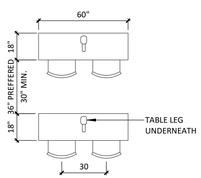


1 105 FLOOR PLAN

1/4" = 1'-0"

0 2' 4' 8'

OCCUPANCY: 148 - 15.0 S.F./STUDENT



FIXED TABLES WITH MOVABLE SEATING

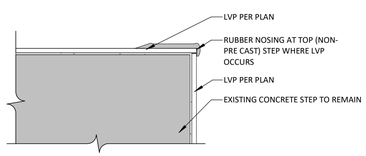
TABLES: 18" X 60"
TIERED SEATING HEIGHTS:
LOW - 29" A.F.F.
MEDIUM - 36" A.F.F.

TABLE LEG:

POWERED TABLE LEG:

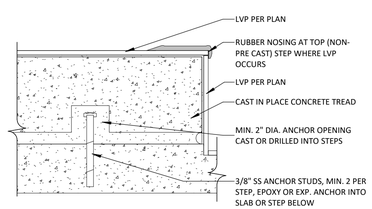
2 FURNITURE KEY

1/4" = 1'-0"



3 NOSING DETAIL LVP TO LVP

3" = 1'-0"



4 TYPICAL STAIR SECTION

3" = 1'-0"

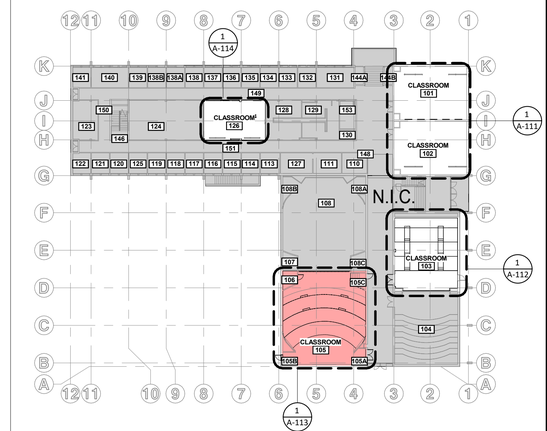
GENERAL FLOOR PLAN NOTES:

A. SEE G-001 PROJECT TITLE SHEET FOR GENERAL NOTES.
B. PROTECT EXISTING BUILDING OUTSIDE OF THIS SCOPE OF WORK AT ALL TIMES
C. SEE OTHER SHEETS IN THIS SET FOR ADDITIONAL INFORMATION.
D. CONTRACTOR SHALL INCLUDE CUTTING AND PATCHING FOR ALL INSTANCES WHERE REQUIRED, WHETHER OR NOT SHOWN/ INDICATED ON THESE CONSTRUCTION DOCUMENTS.
E. THE EXISTING BUILDING MAY NOT BE LEVEL AND PLUMB. CONTRACTOR SHALL FIELD VERIFY AND PROVIDE CONCEALED SHIMS, ETC. AS NECESSARY TO MAKE NEW WORK LEVEL AND PLUMB, UNLESS SPECIFICALLY NOTED OTHERWISE.

FLOOR PLAN KEYNOTES 105

1 ADA ACCESSIBLE LOCATION
2 LOOSE FURNITURE CFCI. BASIS OF DESIGN: SEDIA SYSTEMS.
3 FIXED FURNITURE CFCI. BASIS OF DESIGN: SEDIA SYSTEMS.
4 HEIGHT ADJUSTABLE INSTRUCTOR STATION WITH DEDICATED COMPUTER AND CONNECTIONS TO MSU NETWORK.SMART PODIUM LOCATION WILL REQUIRE POWER/NETWORK/AV PATHWAY. SEE ELECTRICAL DRAWINGS.
5 WALL MOUNTED FIXED PROJECTOR SCREEN, OFCI.
6 POE CLOCK VISIBLE TO EVERYONE IN ROOM, SEE ELECTRICAL.
7 ACOUSTICAL WALL TREATMENT.
8 ON-FLOOR WIRE RACEWAY, SEE ELECTRICAL.
9 POWER STUB-UP AT TABLE LEG. SEE ELECTRICAL.
10 NEW CONCRETE RISER.

ENTIRE SHEET IS ADD ALTERNATE #1



KEY PLAN

JACKOLA ENGINEERING & ARCHITECTURE
SINCE 1969 P.C.
Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

STATE OF MONTANA
BELGRADE
CHELSEA N. HOLLING
27780
REGISTERED ARCHITECT
LICENSED MONTANA ARCHITECT

BID SET

REID HALL CLASSROOM RENOVATION
MONTANA STATE UNIVERSITY

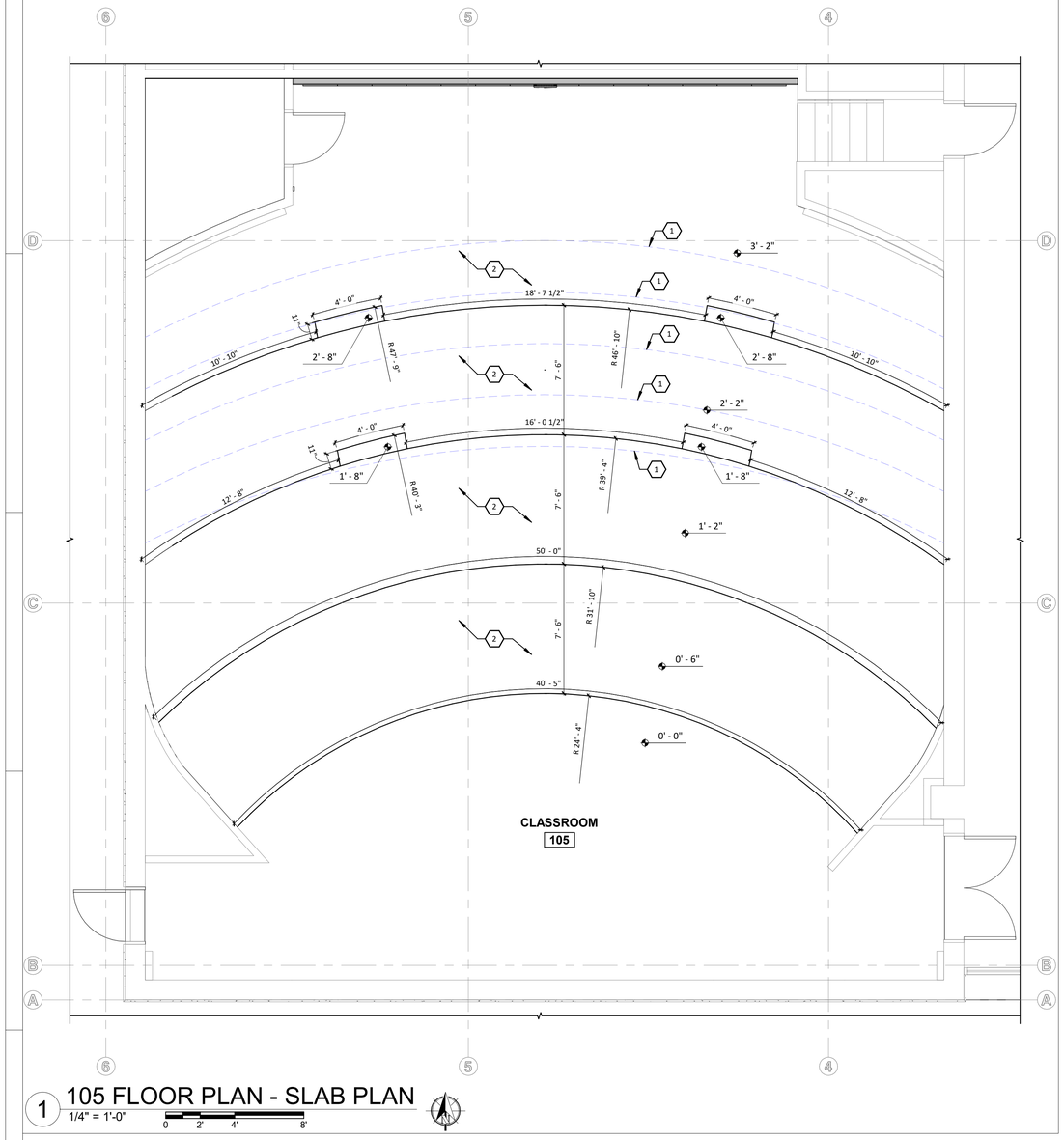
REID HALL,
BOZEMAN, MONTANA 59717
PPA#: 25-1214

DRAWN: RH CHECKED: CH
DATE: 12/17/2025
REVISIONS:

105 FLOOR PLAN ALT. #1

A-113

PROJECT # Project Number



1 105 FLOOR PLAN - SLAB PLAN

1/4" = 1'-0"

0 2' 4' 8'

GENERAL SLAB PLAN NOTES:

A. SEE AD113 FOR DEMOLITION PLAN.

SLAB PLAN KEYNOTES 105

1 EXISTING RISER.

2 NEW CONCRETE RISER.

JACKOLA ENGINEERING & ARCHITECTURE PLLC
SINCE 1969
Engineering, Architecture, Surveying, Land Use, Planning

KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

STATE OF MONTANA
CHELSEA N. HOLLING
27760
REGISTERED MONTANA ARCHITECT
BELGRADE

BID SET

REID HALL CLASSROOM RENOVATION
MONTANA STATE UNIVERSITY

REID HALL,
BOZEMAN, MONTANA 59717
PPA#: 25-1214

DRAWN: KE CHECKED: CH

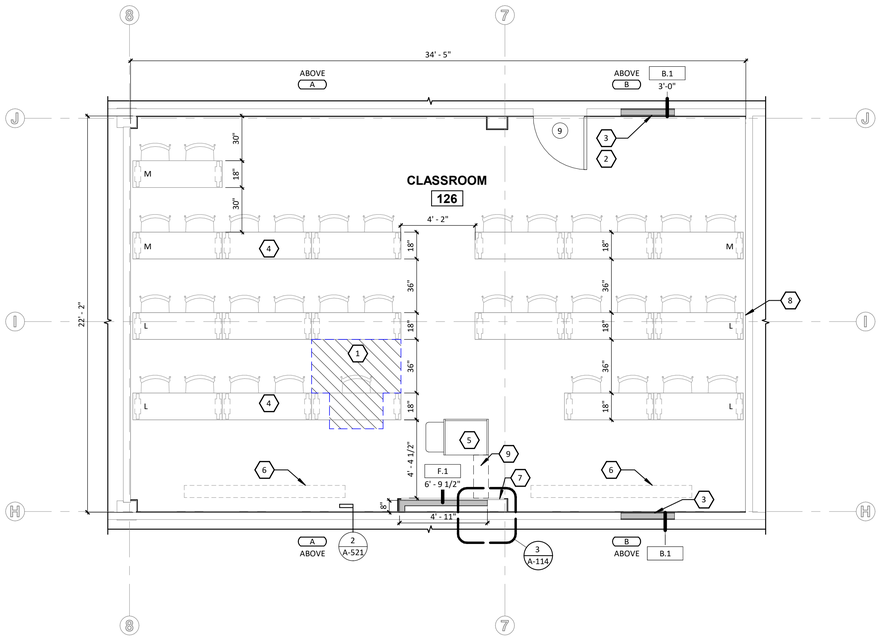
DATE: 12/17/2025

REVISIONS:

105 SLAB PLAN

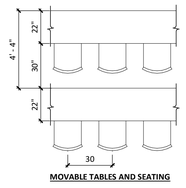
A-113S

PROJECT # Project Number



1 126 FLOOR PLAN
1/4" = 1'-0"

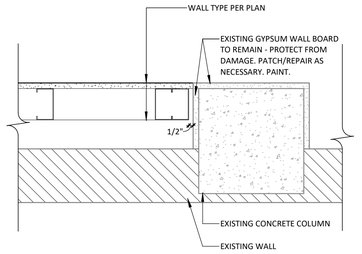
OCCUPANCY: 36 - 21 S.F./STUDENT



MOVABLE TABLES AND SEATING

TIERED SEATING HEIGHTS:
LOW - 29" A.F.F.
MEDIUM - 36" A.F.F.

2 FURNITURE KEY
1/4" = 1'-0"



3 FURRED WALL @ COLUMN
1 1/2" = 1'-0"

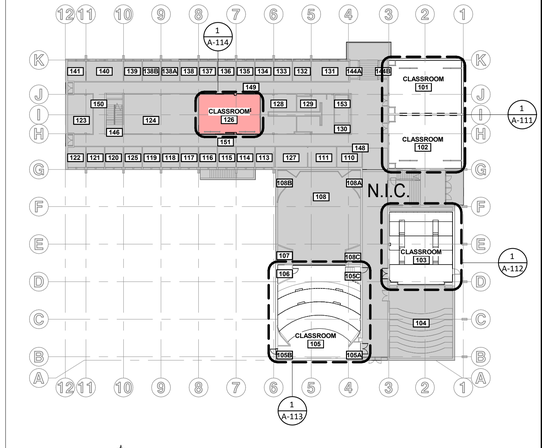
GENERAL FLOOR PLAN NOTES:

A. SEE G-001 PROJECT TITLE SHEET FOR GENERAL NOTES.
B. PROTECT EXISTING BUILDING OUTSIDE OF THIS SCOPE OF WORK AT ALL TIMES
C. SEE OTHER SHEETS IN THIS SET FOR ADDITIONAL INFORMATION.
D. CONTRACTOR SHALL INCLUDE CUTTING AND PATCHING FOR ALL INSTANCES WHERE REQUIRED, WHETHER OR NOT SHOWN/ INDICATED ON THESE CONSTRUCTION DOCUMENTS.
E. THE EXISTING BUILDING MAY NOT BE LEVEL AND PLUMB. CONTRACTOR SHALL FIELD VERIFY AND PROVIDE CONCEALED SHIMS, ETC. AS NECESSARY TO MAKE NEW WORK LEVEL AND PLUMB, UNLESS SPECIFICALLY NOTED OTHERWISE.

FLOOR PLAN KEYNOTES 126

1 ADA ACCESSIBLE LOCATION
2 NEW DOOR AND FRAME.
3 INFILL EXISTING DOORWAY, MATCH EXISTING WALL CONSTRUCTION. SURFACES ON CLASSROOM AND HALLWAY SIDES TO BE SMOOTH AND SEAMLESS FOR PAINT.
4 ALL FURNITURE CFCI. BASIS OF DEISGN: SEDIA SYSTEMS
5 HEIGHT ADJUSTABLE INSTRUCTOR STATION WITH DEDICATED COMPUTER AND CONNECTIONS TO MSU NETWORK.SMART PODIUM LOCATION WILL REQUIRE POWER/NETWORK/AV PATHWAY. SEE ELECTRICAL DRAWINGS.
6 CEILING MOUNTED PROJECTOR SCREENS, OFCI.
7 CUSTOM 5' 9" X 3' 9" WHITEBOARD CFCI, NO TRAY. BASIS OF DESIGN: OPTIMA GREAT WHITE MAGNETIC WHITEBOARD.
8 POE CLOCK VISIBLE TO EVERYONE IN ROOM, SEE ELECTRICAL.
9 ON-FLOOR WIRE RACEWAY, SEE ELECTRICAL.

ENTIRE SHEET IS ADD ALTERNATE #3



KEY PLAN

JACKOLA ENGINEERING & ARCHITECTURE PLLC
SINCE 1969
Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

STATE OF MONTANA
CHELSEA N. HOLLING
27760
REGISTERED ARCHITECT
BELGRADE

BID SET

REID HALL CLASSROOM RENOVATION
MONTANA STATE UNIVERSITY

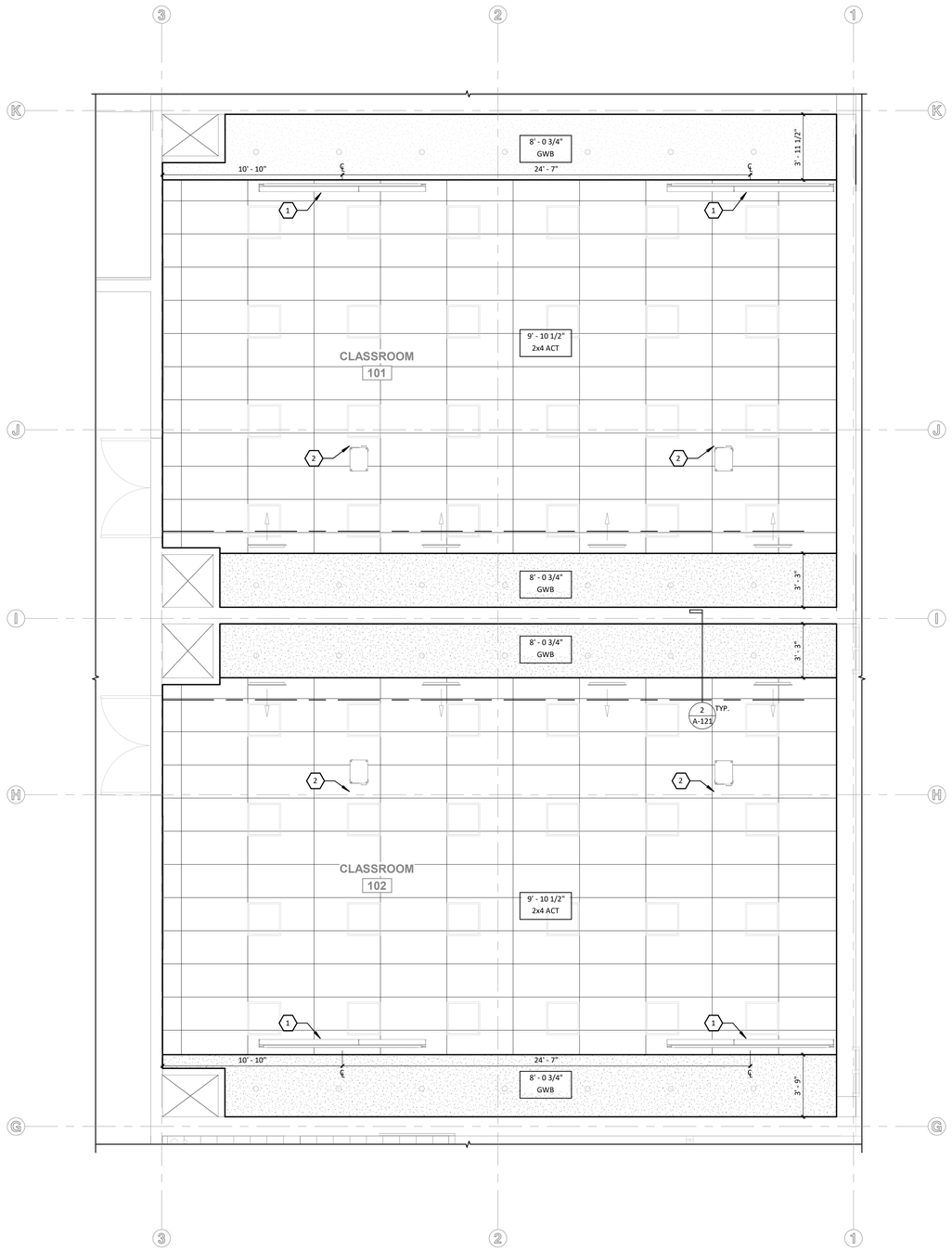
REID HALL,
BOZEMAN, MONTANA 59717
PPA#: 25-1214

DRAWN: RH CHECKED: CH
DATE: 12/17/2025
REVISIONS:

126 FLOOR PLAN ALT. #3

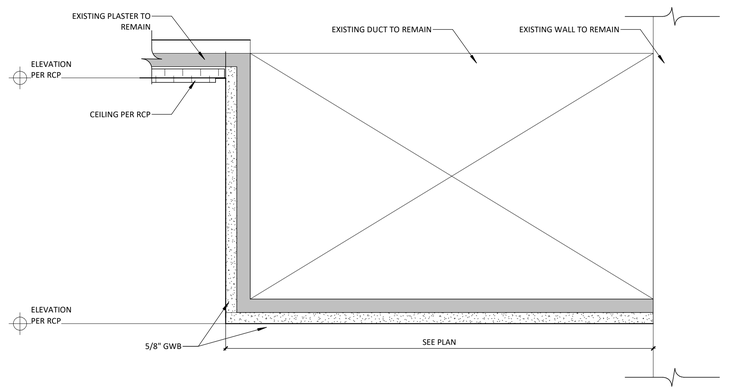
A-114

PROJECT # Project Number



1 101/102 REFLECTED CEILING PLAN
1/4" = 1'-0"
0 2' 4' 8'

101 APPROXIMATE OCCUPANCY: 47 - 25.4 S.F./STUDENT
102 APPROXIMATE OCCUPANCY: 47 - 25.1 S.F./STUDENT



2 CEILING SOFFIT DETAIL
3" = 1'-0"

GENERAL RCP NOTES:

A. SEE G-001 PROJECT TITLE SHEET FOR GENERAL NOTES.
B. PROTECT EXISTING BUILDING OUTSIDE OF THIS SCOPE OF WORK AT ALL TIMES
C. SEE OTHER SHEETS IN THIS SET FOR ADDITIONAL INFORMATION.
D. CONTRACTOR SHALL INCLUDE CUTTING AND PATCHING FOR ALL INSTANCES WHERE REQUIRED, WHETHER OR NOT SHOWN/ INDICATED ON THESE CONSTRUCTION DOCUMENTS.
E. THE EXISTING BUILDING MAY NOT BE LEVEL AND PLUMB. CONTRACTOR SHALL FIELD VERIFY AND PROVIDE CONCEALED SHIMS, ETC. AS NECESSARY TO MAKE NEW WORK LEVEL AND PLUMB, UNLESS SPECIFICALLY NOTED OTHERWISE.

RCP KEYNOTES 101/102

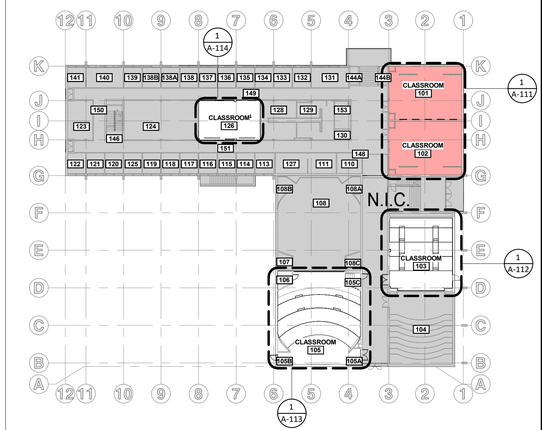
1 CEILING MOUNTED PROJECTOR SCREENS. CONTRACTOR TO PROVIDE BLOCKING PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2 CEILING MOUNTED PROJECTOR.CONTRACTOR TO PROVIDE BLOCKING PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.

CEILING PLAN LEGEND

2x4 ACT
ACOUSTIC CEILING TILE

GWB
GYPSUM WALL BOARD

SPRINKLER SYSTEM PIPING
NEW



KEY PLAN

JACKOLA ENGINEERING & ARCHITECTURE
SINCE 1969 P.C.
Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

STATE OF MONTANA BELGRADE CHELSEA N. HOLLING 27780 REGISTERED ARCHITECT

BID SET

REID HALL CLASSROOM RENOVATION
MONTANA STATE UNIVERSITY

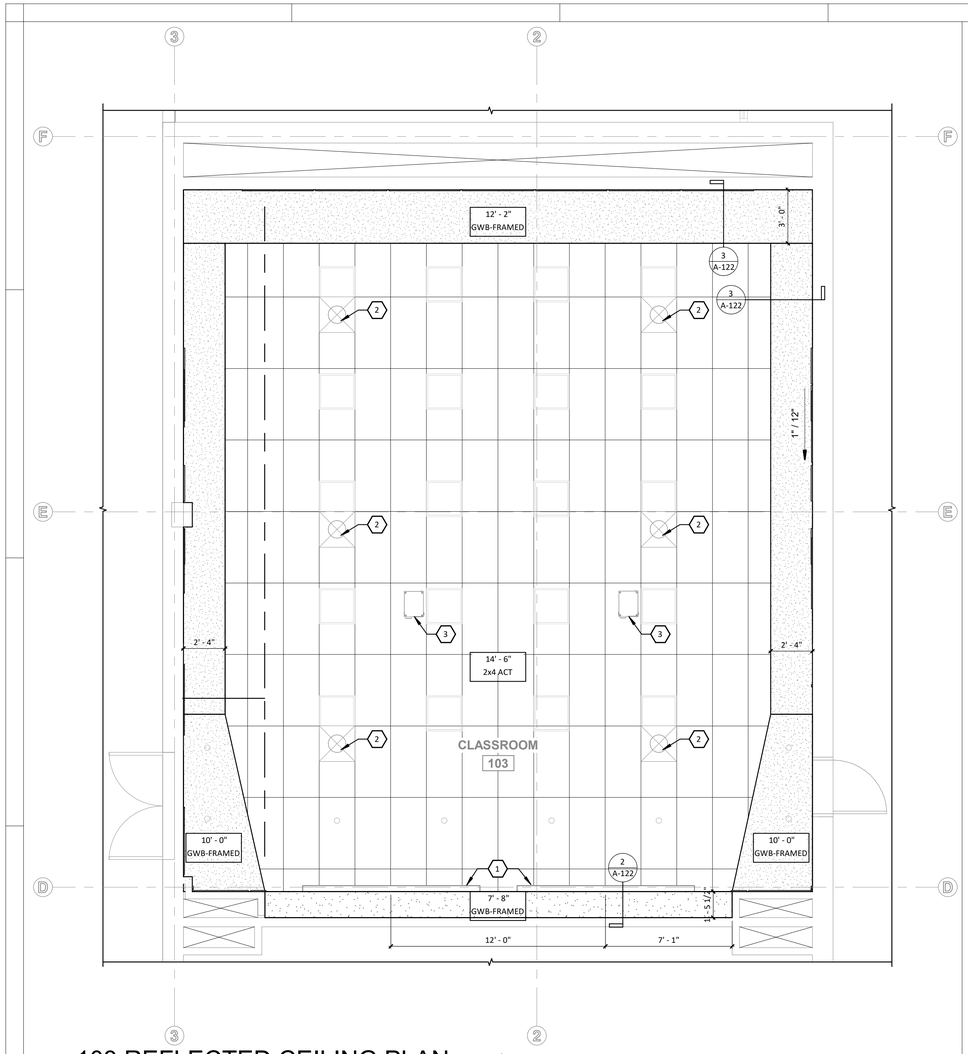
REID HALL,
BOZEMAN, MONTANA 59717
PPA#: 25-1214

DRAWN: RH CHECKED: CH
DATE: 12/17/2025
REVISIONS:

101/102 REFLECTED CELING PLAN

A-121

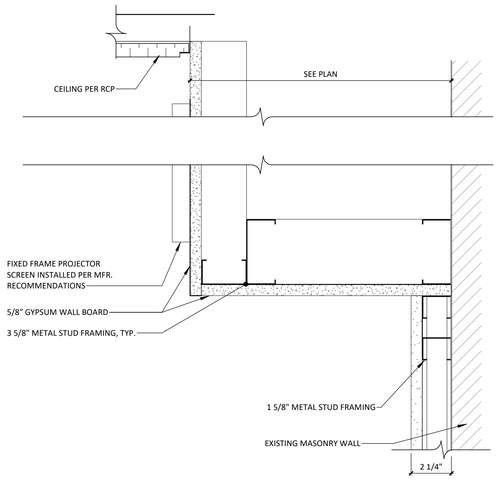
PROJECT # Project Number



1 103 REFLECTED CEILING PLAN

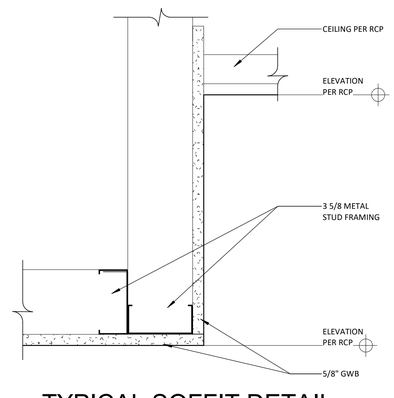
1/4" = 1'-0"

0 2' 4' 8'



2 SOFFIT @ INSTRUCTOR WALL

3" = 1'-0"



3 TYPICAL SOFFIT DETAIL

3" = 1'-0"

ENTIRE SHEET IS ADD ALTERNATE #2

GENERAL RCP NOTES:

A. SEE G-001 PROJECT TITLE SHEET FOR GENERAL NOTES.
B. PROTECT EXISTING BUILDING OUTSIDE OF THIS SCOPE OF WORK AT ALL TIMES
C. SEE OTHER SHEETS IN THIS SET FOR ADDITIONAL INFORMATION.
D. CONTRACTOR SHALL INCLUDE CUTTING AND PATCHING FOR ALL INSTANCES WHERE REQUIRED, WHETHER OR NOT SHOWN/ INDICATED ON THESE CONSTRUCTION DOCUMENTS.
E. THE EXISTING BUILDING MAY NOT BE LEVEL AND PLUMB. CONTRACTOR SHALL FIELD VERIFY AND PROVIDE CONCEALED SHIMS, ETC. AS NECESSARY TO MAKE NEW WORK LEVEL AND PLUMB, UNLESS SPECIFICALLY NOTED OTHERWISE.

RCP KEYNOTES 103

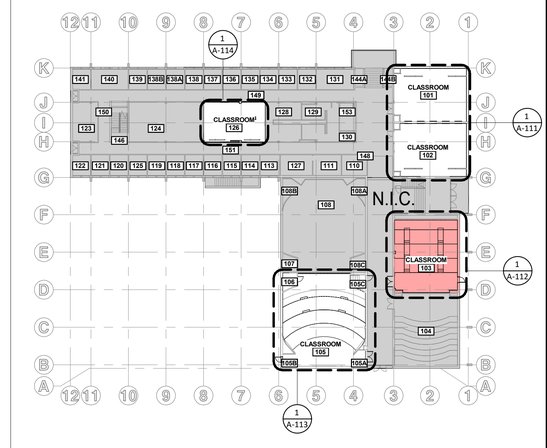
1 WALL MOUNTED FIXED FRAME PROJECTOR SCREENS.CONTRACTOR TO PROVIDE BLOCKING PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2 MECHANICAL CONTRACTOR TO REPLACE EXISTING SUPPLY DIFFUSERS WITH TITUS DIFFUSER MODEL NUMBER TMS. MECHANCIAL CONTRACTOR TO VERIFY EXISTING NECK SIZES PRIOR TO ORDERING NEW DIFFUSERS. LOCATE NEW DIFFUSERS IN AS CLOSE PROXIMITY TO EXISTING LOCATIONS AS POSSIBLE. EXISTING AIR-FLOW SHALL REMAIN THE SAME. MECHANICAL CONTRACTOR TO REPLACE FLEX DUCT BETWEEN DUCT RUN OUT TO DIFFUSERS. SEE MECHANICAL.
3 CEILING MOUNTED PROJECTOR. CONTRACTOR TO PROVIDE BLOCKING PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.

CEILING PLAN LEGEND

2X4 ACT
ACOUSTIC CEILING TILE

GWB
GYPSUM WALL BOARD

SPRINKLER SYSTEM PIPING
NEW



KEY PLAN

JACKOLA ENGINEERING & ARCHITECTURE
SINCE 1969 P.C.
Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

STATE OF MONTANA
BELGRADE
CHELSEA N. HOLLING
27780
LICENSED ARCHITECT

BID SET

REID HALL CLASSROOM RENOVATION
MONTANA STATE UNIVERSITY

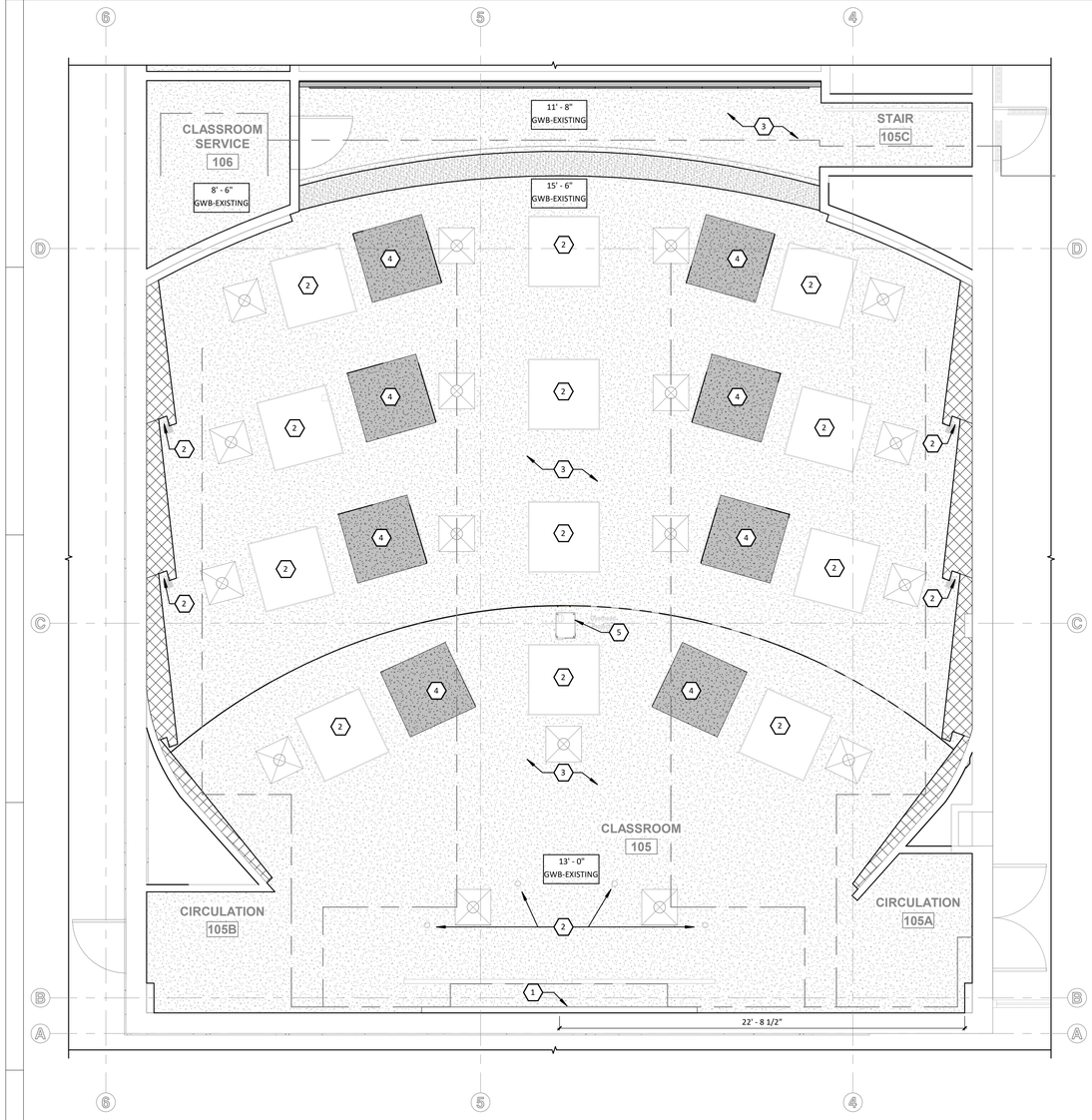
REID HALL,
BOZEMAN, MONTANA 59717
PPA#: 25-1214

DRAWN: RH CHECKED: CH
DATE: 12/17/2025
REVISIONS:

103 REFLECTED CELING PLAN ALT. #2

A-122

PROJECT # Project Number



1 105 REFLECTED CEILING PLAN
1/4" = 1'-0"
0 2' 4' 8'

ENTIRE SHEET IS ADD ALTERNATE #1

GENERAL RCP NOTES:

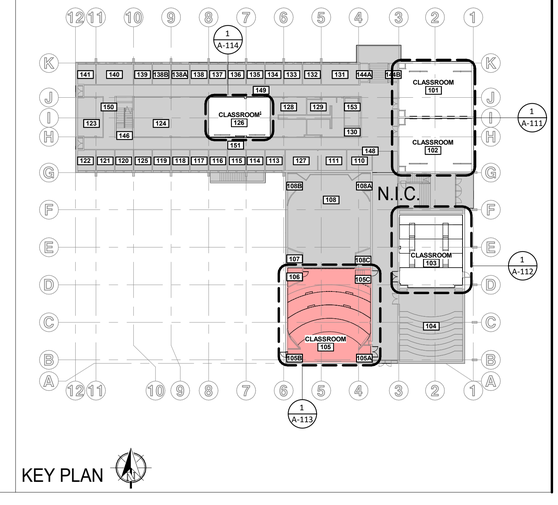
A. SEE G-001 PROJECT TITLE SHEET FOR GENERAL NOTES.
B. PROTECT EXISTING BUILDING OUTSIDE OF THIS SCOPE OF WORK AT ALL TIMES
C. SEE OTHER SHEETS IN THIS SET FOR ADDITIONAL INFORMATION.
D. CONTRACTOR SHALL INCLUDE CUTTING AND PATCHING FOR ALL INSTANCES WHERE REQUIRED, WHETHER OR NOT SHOWN/ INDICATED ON THESE CONSTRUCTION DOCUMENTS.
E. THE EXISTING BUILDING MAY NOT BE LEVEL AND PLUMB. CONTRACTOR SHALL FIELD VERIFY AND PROVIDE CONCEALED SHIMS, ETC. AS NECESSARY TO MAKE NEW WORK LEVEL AND PLUMB, UNLESS SPECIFICALLY NOTED OTHERWISE.

RCP KEYNOTES 105

1 WALL MOUNTED PROJECTOR SCREEN.CONTRACTOR TO PROVIDE BLOCKING PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2 EXISTING LIGHT FIXTURE HOUSING TO REMAIN. SEE ELECTRICAL.
3 PAINT CEILING.
4 SURFACE MOUNTED ACOUSTIC CEILING PANELS. BASIS OF DESIGN: ARMSTRONG FELTWORKS ACOUSTICAL CEILING PANELS. SIZE: 48"X48". COLOR: LIGHT GREY(F1G)
5 CEILING MOUNTED PROJECTOR.CONTRACTOR TO PROVIDE BLOCKING PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.

CEILING PLAN LEGEND

- GWB-EXISTING GYPSUM WALL BOARD
- EXISTING ACOUSTIC WALL PANELS
- ACOUSTIC CEILING PANELS
- EXISTING SPRINKLER SYSTEM PIPING REMAINING



KEY PLAN

JACKOLA ENGINEERING & ARCHITECTURE
SINCE 1969 P.C.
Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

STATE OF MONTANA
CHELSEA N. HOLLING
27760
REGISTERED ARCHITECT

BID SET

REID HALL CLASSROOM RENOVATION
MONTANA STATE UNIVERSITY

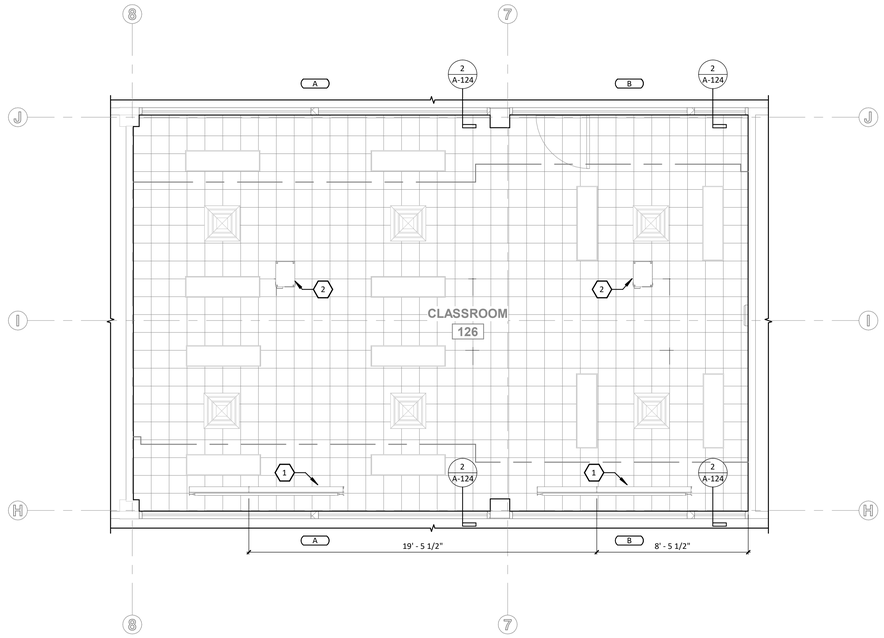
REID HALL,
BOZEMAN, MONTANA 59717
PPA#: 25-1214

DRAWN: RH CHECKED: CH
DATE: 12/17/2025
REVISIONS:

105 REFLECTED CELING PLAN ALT. #1

A-123

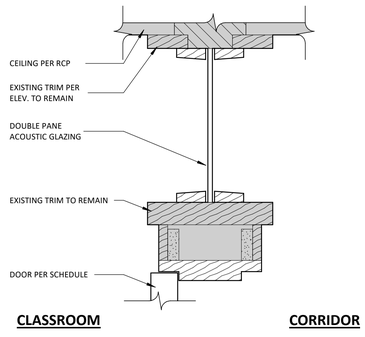
PROJECT # Project Number



1 126 REFLECTED CEILING PLAN

1/4" = 1'-0"

0 2' 4' 8'



2 TRANSOM DETAIL - NEW

3" = 1'-0"

ENTIRE SHEET IS ADD ALTERNATE #3

GENERAL RCP NOTES:

A. SEE G-001 PROJECT TITLE SHEET FOR GENERAL NOTES.
B. PROTECT EXISTING BUILDING OUTSIDE OF THIS SCOPE OF WORK AT ALL TIMES
C. SEE OTHER SHEETS IN THIS SET FOR ADDITIONAL INFORMATION.
D. CONTRACTOR SHALL INCLUDE CUTTING AND PATCHING FOR ALL INSTANCES WHERE REQUIRED, WHETHER OR NOT SHOWN/ INDICATED ON THESE CONSTRUCTION DOCUMENTS.
E. THE EXISTING BUILDING MAY NOT BE LEVEL AND PLUMB. CONTRACTOR SHALL FIELD VERIFY AND PROVIDE CONCEALED SHIMS, ETC. AS NECESSARY TO MAKE NEW WORK LEVEL AND PLUMB, UNLESS SPECIFICALLY NOTED OTHERWISE.

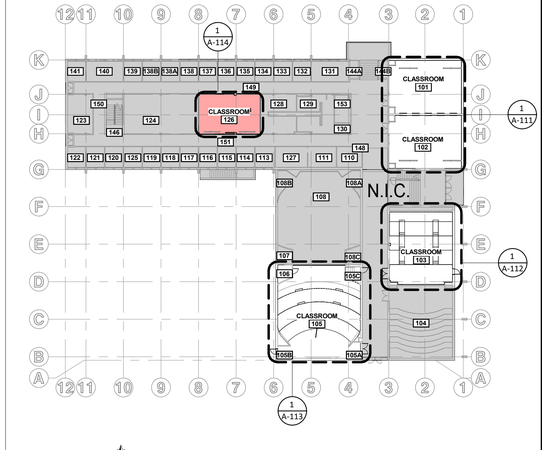
RCP KEYNOTES 126

1 CEILING MOUNTED PROJECTOR SCREEN. CONTRACTOR TO PROVIDE BLOCKING PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2 CEILING MOUNTED PROJECTOR.CONTRACTOR TO PROVIDE BLOCKING PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.

CEILING PLAN LEGEND

1X1 ACT
ACOUSTIC CEILING TILE

EXISTING SPRINKLER SYSTEM PIPING REMAINING



KEY PLAN

JACKOLA ENGINEERING & ARCHITECTURE
SINCE 1969 P.C.
Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

STATE OF MONTANA
BELGRADE
CHELSEA N. HOLLING
27780
LICENSED ARCHITECT

BID SET

REID HALL CLASSROOM RENOVATION
MONTANA STATE UNIVERSITY

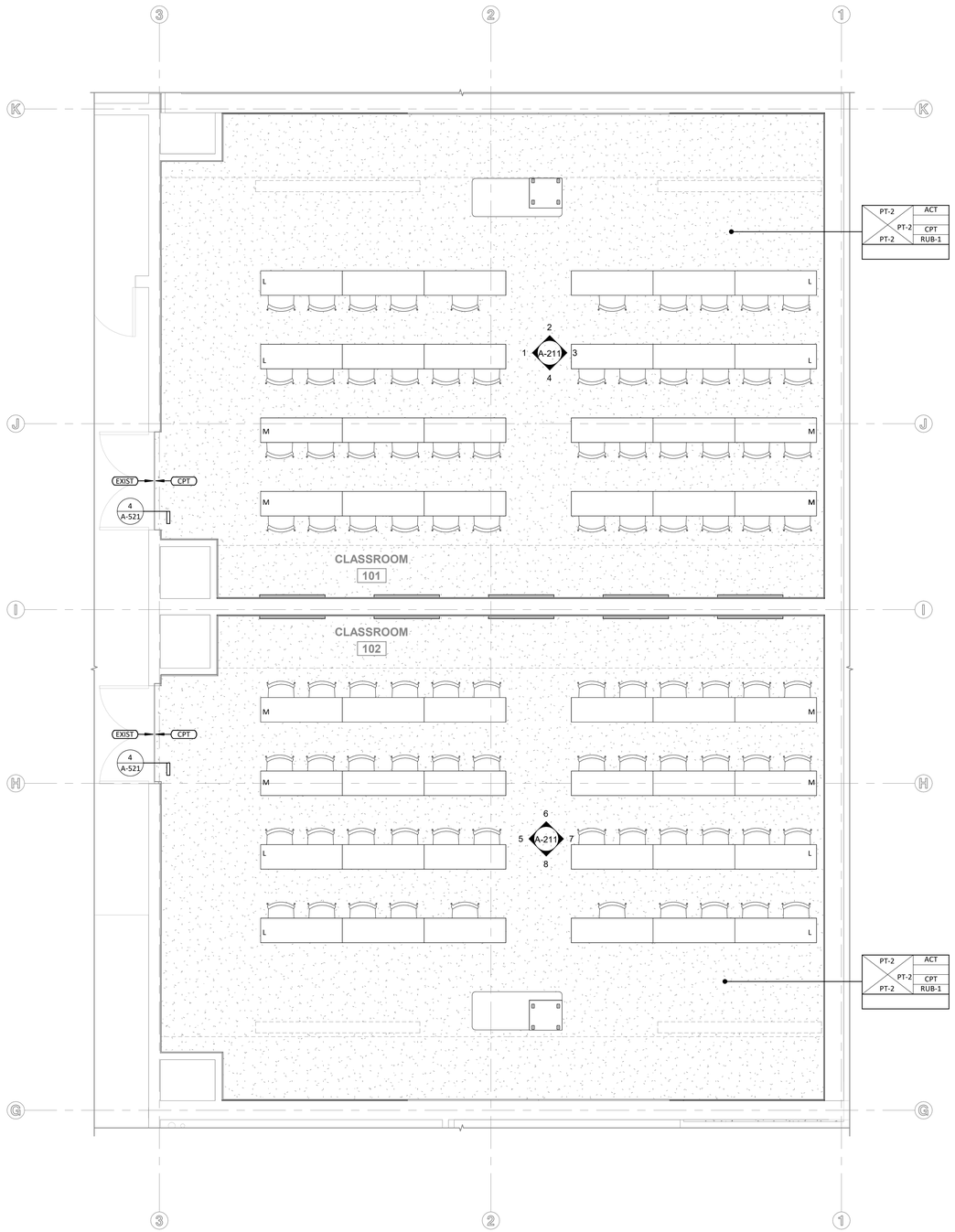
REID HALL,
BOZEMAN, MONTANA 59717
PPA#: 25-1214

DRAWN: RH CHECKED: CH
DATE: 12/17/2025
REVISIONS:

126 REFLECTED CELING PLAN ALT. #3

A-124

PROJECT # Project Number



1 101/102 FINISH FLOOR PLAN
1/4" = 1'-0"
0 2' 4' 8'

PROJECT # Project Number

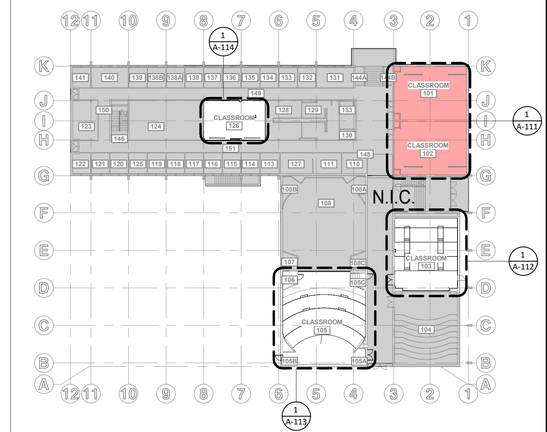
ROOM FINISH KEY

WALL	WALL	CEILING
		SILL
		FLOOR
		BASE

NOTES

FINISH SCHEDULE

TAG	KEY	COLOR	MANUFACTURER	STYLE	NOTE
ACT	ACOUSTIC CEILING TILE	WHITE	ARMSTRONG	CIRRUS 584	24" X 48" SQUARE LAY-IN 15/16, 0.70 NRC
CPT	CARPET TILE	IMAGE 26557	SHAW CONTRACT	ALTERED, GLITCH TILE	INSTALLATION METHOD: ASHLAR
EXIST	EXISTING	EXISTING	EXISTING	EXISTING	
FAB-1	ACOUSTIC FELT PANEL	DARK GREY (FDG)	ARMSTRONG	FELTWORKS	SIZE: 4' X 4' X 1". NRC 0.75
PT-2	PAINT	SW 9165 GOSSAMER VEIL	SHERWIN WILLIAMS	EGGSHELL	
PT-3	PAINT	SW 7019 GAUNTLET GRAY	SHERWIN WILLIAMS	EGGSHELL	
RUB-1	RUBBER BASE	BLACK	JOHNSONITE	DURACOVE 4"	THERMOPLASTIC RUBBER 1/8"
SS-1	SOLID SURFACE	DEEP STORM	CORIAN		CHAIR RAIL (9 5/8" H X 1/2" D)



KEY PLAN

JACKOLA ENGINEERING & ARCHITECTURE P.C. SINCE 1969
Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

STATE OF MONTANA
CHELSEA N. HOLLING
27780
REGISTERED ARCHITECT
BELGRADE, MONTANA

BID SET

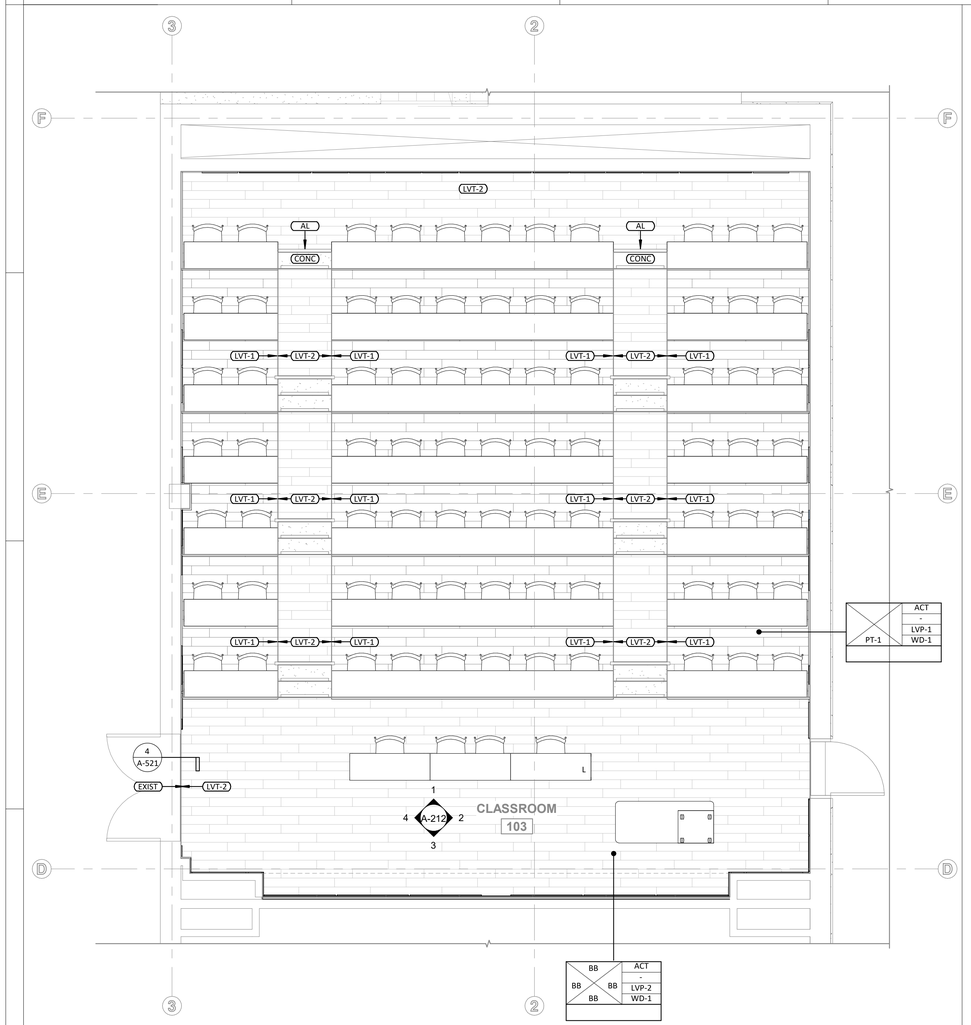
REID HALL CLASSROOM RENOVATION
MONTANA STATE UNIVERSITY

REID HALL,
BOZEMAN, MONTANA 59717
PPA#: 25-1214

DRAWN: RH CHECKED: CH
DATE: 12/17/2025
1 REVISIONS:

101/102 FINISH FLOOR PLAN

A-131



1 103 FINISH FLOOR PLAN

1/4" = 1'-0"

0 2' 4' 8'

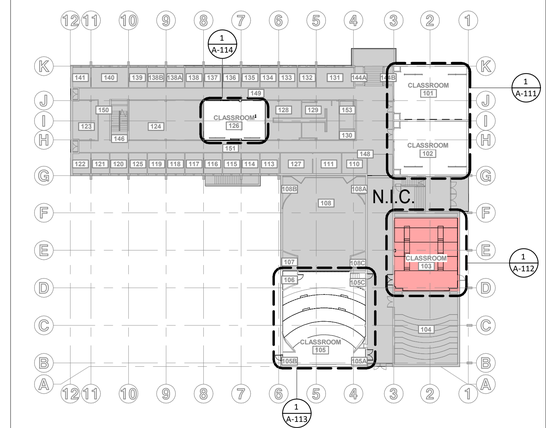
ROOM FINISH KEY

WALL / WALL / WALL / WALL	CEILING
	SILL
	FLOOR
	BASE
NOTES	

FINISH SCHEDULE

TAG	KEY	COLOR	MANUFACTURER	STYLE	NOTE
ACT	ACOUSTIC CEILING TILE	WHITE	ARMSTRONG	CIRRUS 584	24" X 48" SQUARE LAY-IN 15/16, 0.70 NRC
AL	ALUMINUM TRANSITION STRIP	GRAPHITE GRAY			
BB	NON-ACOUSTIC FLAT BAMBOO PANEL	AMBER	PLYBOO		
CONC	CONCRETE				
EXIST	EXISTING	EXISTING	EXISTING	EXISTING	
FAB-2	ACOUSTIC FABRIC PANEL	WEDGEWOOD	G & S ACOUSTICS	MELODY MSCORES-RAP	SIZES: 2' X 2', 2' X 4', 4' X 4'. 1" THICKNESS. NRC 0.85
LVT-1	LUXURY VINYL TILE	WREATH PT69/PT82	DALTILE	PINES TERRACE	
LVT-2	LUXURY VINYL PLANK	SADDLE BP14	DALTILE	BELLAMY PLACE	
PT-1	PAINT	SW-7012 CREAMY	SHERWIN WILLIAMS		
RUB-1	RUBBER BASE	BLACK	JOHNSONITE	DURAVOVE 4"	THERMOPLASTIC RUBBER 1/8"

ENTIRE SHEET IS ADD ALTERNATE #2



KEY PLAN

JACKOLA ENGINEERING & ARCHITECTURE PLLC
SINCE 1969
Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

STATE OF MONTANA
CHELSEA N. HOLLING
27780
REGISTERED ARCHITECT
BELGRADE

BID SET

REID HALL CLASSROOM RENOVATION
MONTANA STATE UNIVERSITY

REID HALL,
BOZEMAN, MONTANA 59717
PPA#: 25-1214

DRAWN: RH CHECKED: CH

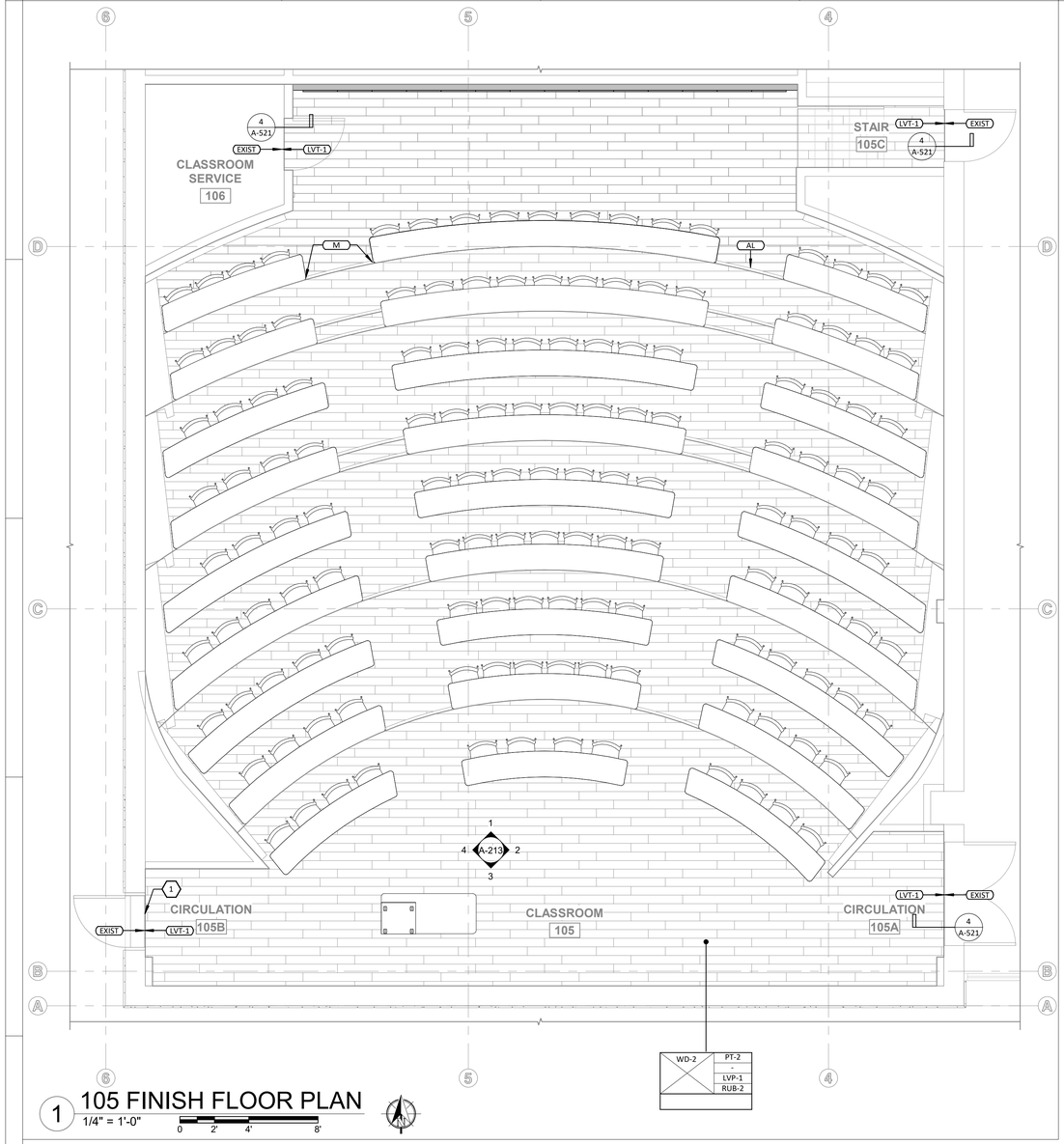
DATE: 12/17/2025

REVISIONS:

103 FINISH FLOOR PLAN ALT. #2

A-132

PROJECT # Project Number



1 105 FINISH FLOOR PLAN

1/4" = 1'-0"

0 2' 4' 8'

ENTIRE SHEET IS ADD ALTERNATE #1

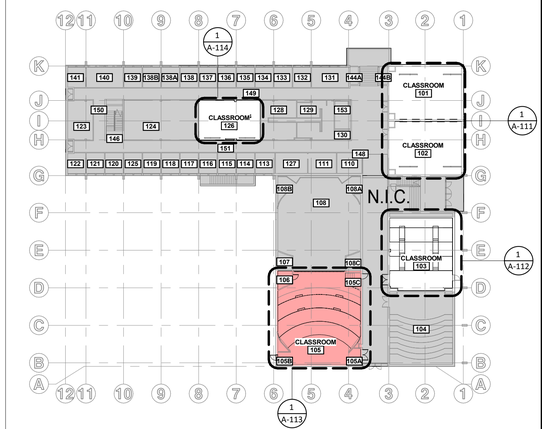
ROOM FINISH KEY

WALL	WALL	CEILING
		SILL
		FLOOR
WALL		BASE

NOTES

FINISH SCHEDULE

TAG	KEY	COLOR	MANUFACTURER	STYLE	NOTE
AL	ALUMINUM TRANSITION STRIP	ALUMINUM	SCHLUTER SYSTEMS	RENO-T - T9/14A	
EXIST	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING
FAB-3	ACOUSTIC WALL PANEL	FR-701 BLUE PLUM	ARMSTRONG	SOUNDSOAK 85	SIZE: 2' X 8' X 1". NRC 0.80
LVT-1	LUXURY VINYL TILE	WREATH PT69/PT82	DALTILE	PINES TERRACE	
M	METAL NOSING STRIP	GRAPHITE BLACK	SCHLUTER SYSTEMS	TREP-S/-B - GS 10 S	
PT-2	PAINT	SW 9165 GOSSAMER VEIL	SHERWIN WILLIAMS	EGGSHELL	
RUB-1	RUBBER BASE	BLACK	JOHNSONITE	DURACOVE 4"	



KEY PLAN

JACKOLA ENGINEERING & ARCHITECTURE
SINCE 1969 P.C.
Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

STATE OF MONTANA
BELGRADE
CHELSEA N. HOLLING
27780
REGISTERED MONTANA ARCHITECT

BID SET

REID HALL CLASSROOM RENOVATION
MONTANA STATE UNIVERSITY

REID HALL,
BOZEMAN, MONTANA 59717
PPA#: 25-1214

DRAWN: RH CHECKED: CH

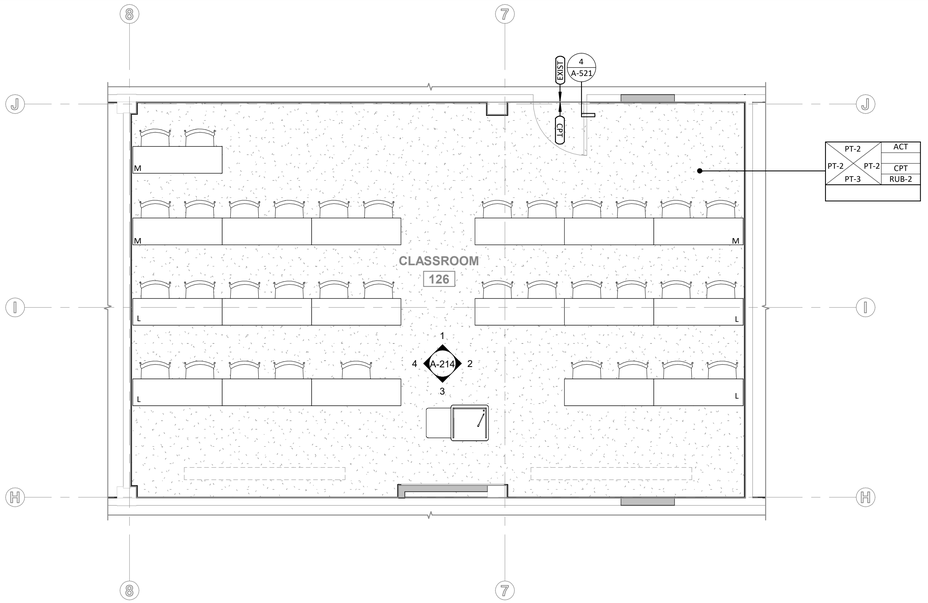
DATE: 12/17/2025

REVISIONS:

105 FINISH FLOOR PLAN ALT. #1

A-133

PROJECT # Project Number



1 126 FINISH FLOOR PLAN

1/4" = 1'-0"

0 2' 4' 8'

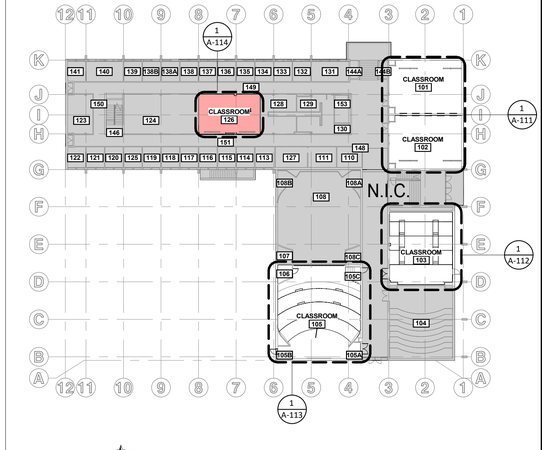
ROOM FINISH KEY

WALL	WALL	CEILING
		SILL
		FLOOR
WALL		BASE
NOTES		

FINISH SCHEDULE

TAG	KEY	COLOR	MANUFACTURER	STYLE	NOTE
EXIST	EXISTING	EXISTING	EXISTING	EXISTING	
FAB-4	ACOUSTIC FELT PANEL	DARK GREY (FDG)	ARMSTRONG	FELTWORKS	SIZE: 2' X 4' X 1", NRC 0.75
PT-2	PAINT	SW 9165 GOSSAMER VEIL	SHERWIN WILLIAMS	EGGSHELL	
PT-3	PAINT	SW 9133 JASPER STONE	SHERWIN WILLIAMS	EGGSHELL	
PT-4	PAINT	SW 7757 HIGH REFLECTIVE WHITE	SHERWIN WILLIAMS	DRYFALL	BASE BID: SHERWIN WILLIAMS DRYFALL PAINT ON CEILING
RUB-2	RUBBER BASE	BLACK	JOHNSONITE	DURACOVE 6"	THERMOPLASTIC RUBBER 1/8"
SS-1	SOLID SURFACE	DEEP STORM	CORIAN		CHAIR RAIL (9 5/8" H X 1/2" D)

ENTIRE SHEET IS ADD ALTERNATE #3



KEY PLAN

JACKOLA ENGINEERING & ARCHITECTURE
SINCE 1969 P.C.
Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

STATE OF MONTANA
CHELSEA N. HOLLING
27780
REGISTERED ARCHITECT
BELGRADE

BID SET

REID HALL CLASSROOM RENOVATION
MONTANA STATE UNIVERSITY

REID HALL,
BOZEMAN, MONTANA 59717
PPA#: 25-1214

DRAWN: RH CHECKED: CH

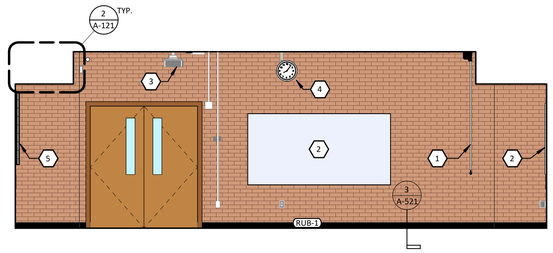
DATE: 12/17/2025

REVISIONS:

126 FINISH FLOOR PLAN ALT. #3

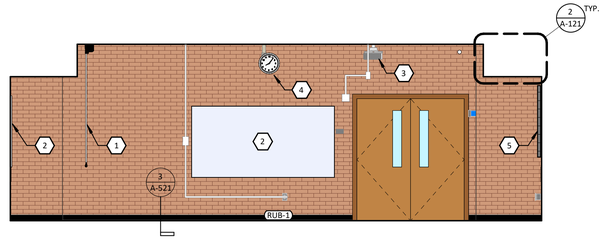
A-134

PROJECT # Project Number



1 101 WEST INTERIOR ELEVATION

1/4" = 1'-0"

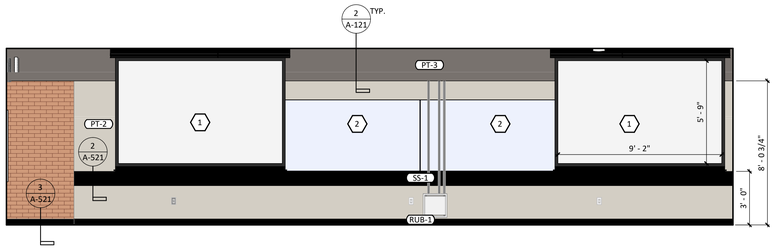


5 102 WEST INTERIOR ELEVATION

1/4" = 1'-0"

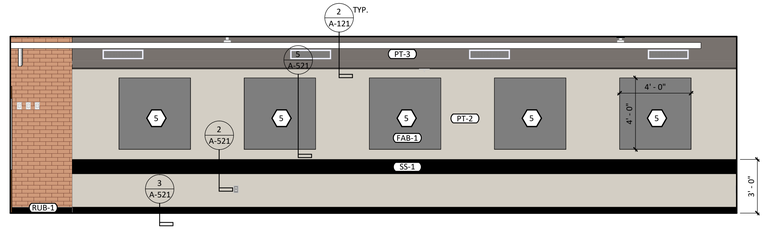
ELEVATION KEYNOTES 101/102

1 CEILING MOUNTED PROJECTOR SCREEN.
2 FIXED WHITEBOARDS, NO TRAY. 4' X 8'. BASIS OF DESIGN: OPTIMA GREAT WHITE MAGNETIC WHITEBOARD
3 CEILING MOUNTED PROJECTOR.
4 POE CLOCK VISIBLE TO EVERYONE IN ROOM.
5 ACOUSTIC WALL PANELS. BASIS OF DESIGN: ARMSTRONG FELTWORKS. SIZE: 4'x4', COLOR: DARK GREY (FDG). 0.75 NRC



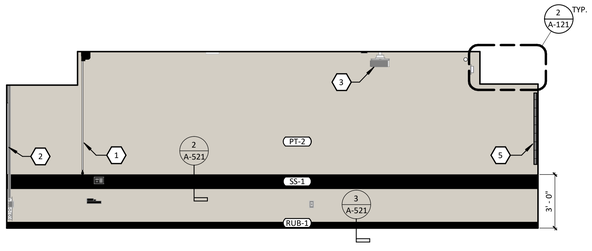
2 101 NORTH INTERIOR ELEVATION

1/4" = 1'-0"



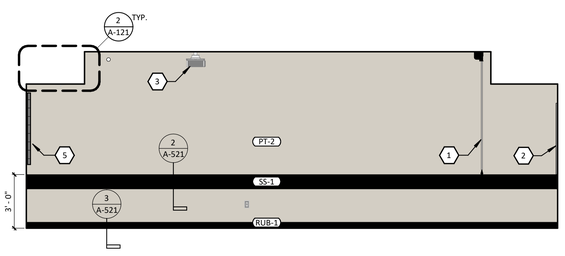
6 102 NORTH INTERIOR ELEVATION

1/4" = 1'-0"



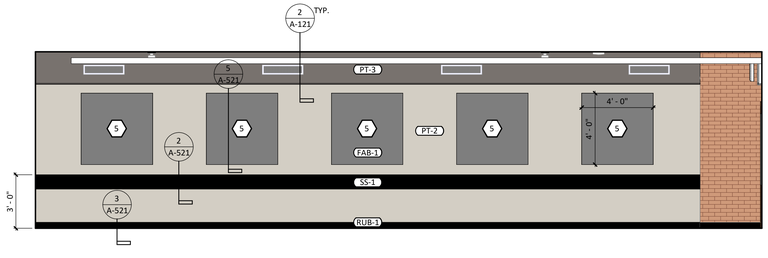
3 101 EAST INTERIOR ELEVATION

1/4" = 1'-0"



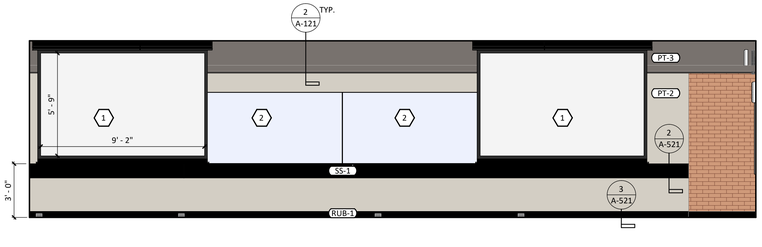
7 102 EAST INTERIOR ELEVATION

1/4" = 1'-0"



4 101 SOUTH INTERIOR ELEVATION

1/4" = 1'-0"



8 102 SOUTH INTERIOR ELEVATION

1/4" = 1'-0"

SINCE 1969 P.C.
JACKOLA
Engineering. Architecture. Surveying. Land Use. Planning.
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

STATE OF MONTANA
CHELSEA N. HOLLING
27780
REGISTERED ARCHITECT
BELGRADE, MONTANA

BID SET

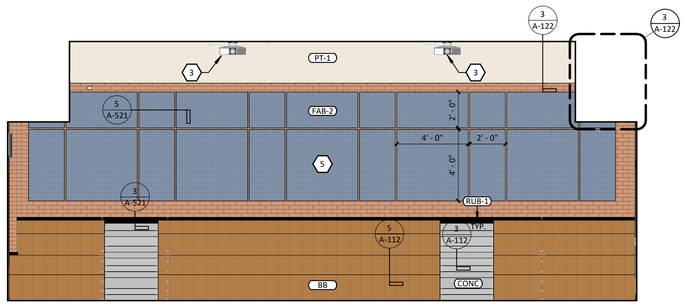
REID HALL CLASSROOM RENOVATION
MONTANA STATE UNIVERSITY
REID HALL,
BOZEMAN, MONTANA 59717
PPA#: 25-1214

DRAWN: RH CHECKED: CH
DATE: 12/17/2025
REVISIONS:

101/102 INTERIOR ELEVATIONS

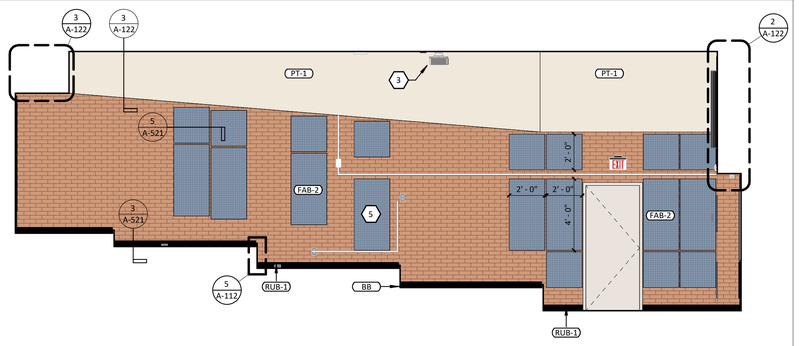
A-211

PROJECT # Project Number



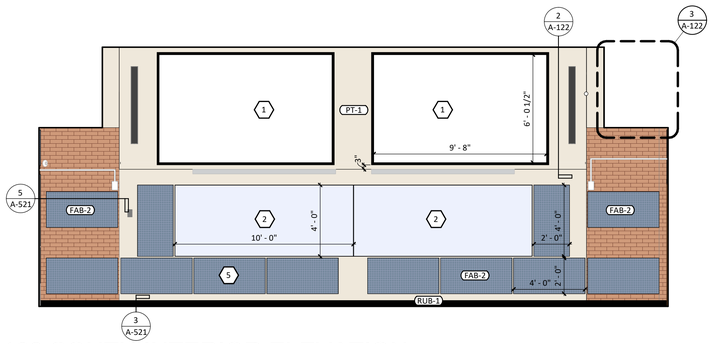
1 103 NORTH INTERIOR ELEVATION

1/4" = 1'-0"



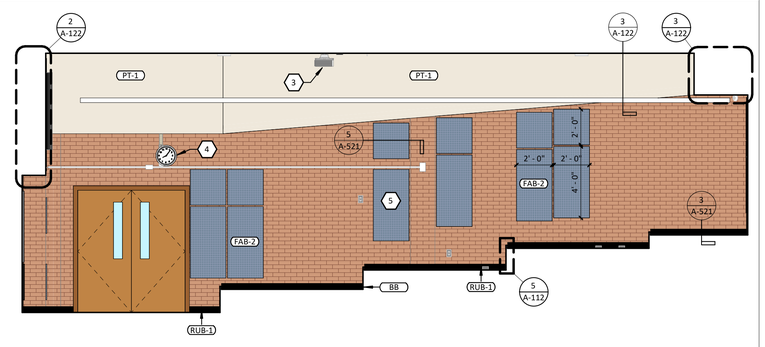
2 103 EAST INTERIOR ELEVATION

1/4" = 1'-0"



3 103 SOUTH INTERIOR ELEVATION

1/4" = 1'-0"



4 103 WEST INTERIOR ELEVATION

1/4" = 1'-0"

ENTIRE SHEET IS ADD ALTERNATE #2

INTERIOR ELEVATION KEYNOTES 103

1 WALL MOUNTED PROJECTOR SCREEN.
2 FIXED WHITEBOARDS, NO TRAY. 4' X 10'. BASIS OF DESIGN: OPTIMA GREAT WHITE MAGNETIC WHITEBOARD.
3 CEILING MOUNTED PROJECTOR.
4 POE CLOCK VISIBLE TO EVERYONE IN ROOM.
5 WALL MOUNTED FABRIC PANELS. BASIS OF DESIGN: G & S ACOUSTICS MELODY MSCORES-RAP. COLOR: WEDGEWOOD. NRC 0.75

JACKOLA ENGINEERING & ARCHITECTURE
SINCE 1969 P.C.
Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

STATE OF MONTANA
CHELSEA N. HOLLING
27780
REGISTERED ARCHITECT
BELGRADE, MONTANA

BID SET

REID HALL CLASSROOM RENOVATION
MONTANA STATE UNIVERSITY

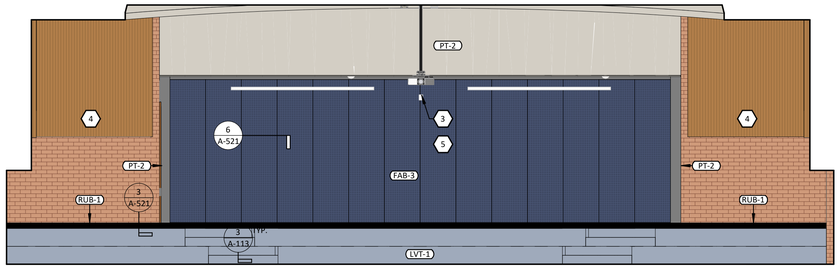
REID HALL,
BOZEMAN, MONTANA 59717
PPA#: 25-1214

DRAWN: RH CHECKED: CH
DATE: 12/17/2025
REVISIONS:

103 INTERIOR ELEVATIONS ALT. #2

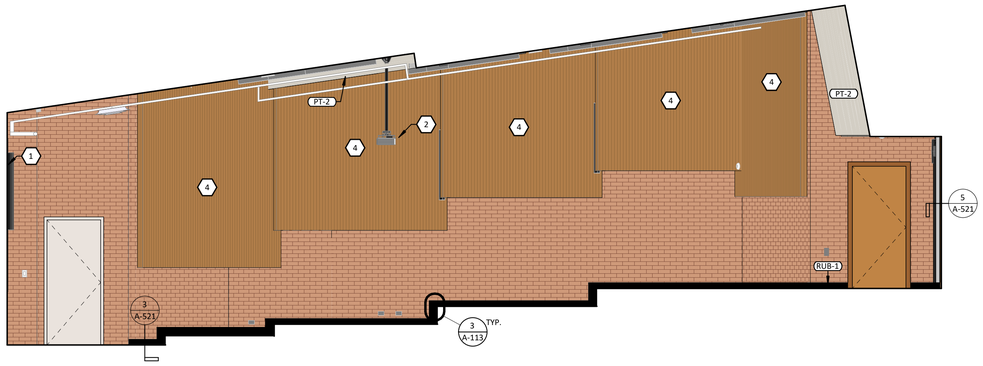
A-212

PROJECT # Project Number



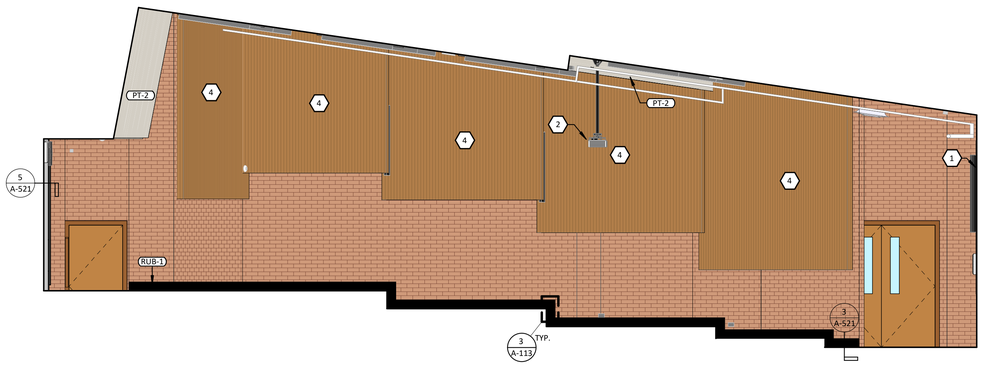
1 105 NORTH INTERIOR ELEVATION

1/4" = 1'-0"



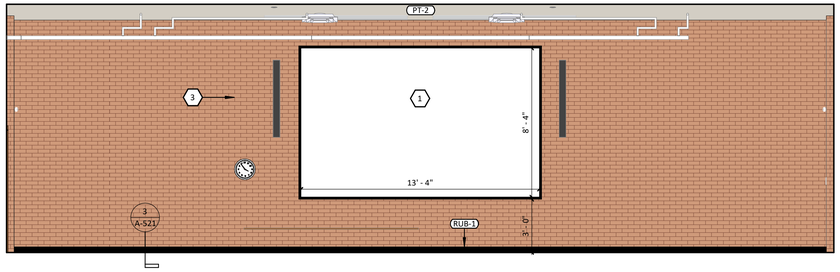
4 105 WEST INTERIOR ELEVATION

1/4" = 1'-0"



2 105 EAST INTERIOR ELEVATION

1/4" = 1'-0"



3 105 SOUTH INTERIOR ELEVATION

1/4" = 1'-0"

INTERIOR ELEVATION KEYNOTES 105

1 WALL MOUNTED PROJECTOR SCREEN .
2 CEILING MOUNTED PROJECTOR.
3 POE CLOCK VISIBLE TO EVERYONE IN ROOM.
4 REFINISH EXISTING ACOUSTIC WALL PANELS.
5 ACOUSTICAL WALL TREATMENT. BASIS OF DESIGN: ARMSTRONG SOUNDSOAK 85. SIZE: 2'X8'. COLOR: BLUE PLUM FR-701 (FRBE)

ENTIRE SHEET IS ADD ALTERNATE #1

JACKOLA ENGINEERING & ARCHITECTURE PC
SINCE 1969
Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

STATE OF MONTANA
CHELSEA N. HOLLING
27760
REGISTERED ARCHITECT
BELGRADE

BID SET

REID HALL CLASSROOM RENOVATION
MONTANA STATE UNIVERSITY

REID HALL,
BOZEMAN, MONTANA 59717
PPA#: 25-1214

DRAWN: RH CHECKED: CH

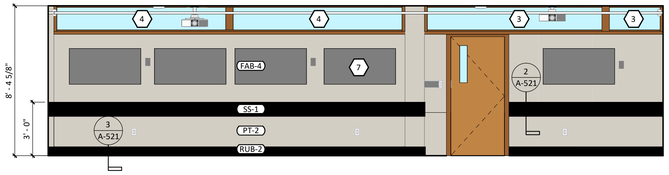
DATE: 12/17/2025

REVISIONS:

105 INTERIOR ELEVATIONS ALT. #1

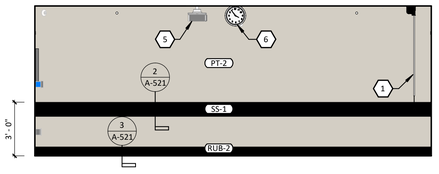
A-213

PROJECT # Project Number



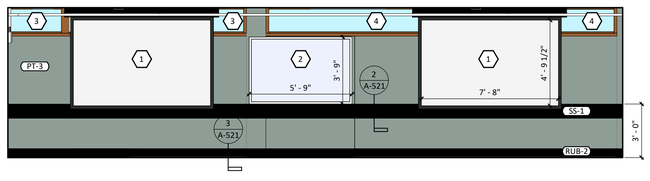
1 126 NORTH INTERIOR ELEVATION

1/4" = 1'-0"



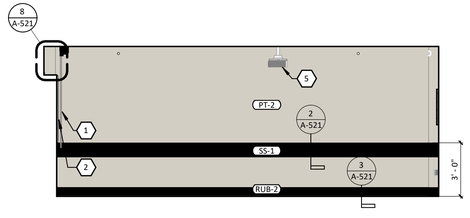
2 126 EAST INTERIOR ELEVATION

1/4" = 1'-0"



3 126 SOUTH INTERIOR ELEVATION

1/4" = 1'-0"



4 126 WEST INTERIOR ELEVATION

1/4" = 1'-0"

ENTIRE SHEET IS ADD ALTERNATE #3

INTERIOR ELEVATION KEYNOTES 126

1 CEILING MOUNTED PROJECTOR SCREEN.
2 CUSTOM FIXED WHITEBOARD, NO TRAY. 5' 9 " X 3' 9". BASIS OF DESIGN: OPTIMA GREAT WHITE MAGNETIC WHITEBOARD.
3 NEW GLAZING IN EXISTING FRAME. MATCH EXISTING.
4 EXISTING GLAZING AND FRAME TO REMAIN.
5 CEILING MOUNTED PROJECTOR.
6 POE CLOCK VISIBLE TO EVERYONE IN ROOM.
7 ACOUSTIC WALL PANELS. BASIS OF DESIGN: ARMSTRONG FELTWORKS. SIZE: 2'x4', COLOR: DARK GREY (FDG). 0.75 NRC

JACKOLA SINCE 1969 P.C.
Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

STATE OF MONTANA
CHELSEA N. HOLLING
27760
REGISTERED ARCHITECT
BELGRADE, MONTANA

BID SET

REID HALL CLASSROOM RENOVATION
MONTANA STATE UNIVERSITY

REID HALL,
BOZEMAN, MONTANA 59717
PPA#: 25-1214

DRAWN: RH CHECKED: CH

DATE: 12/17/2025

REVISIONS:

126 INTERIOR ELEVATIONS ALT. #3

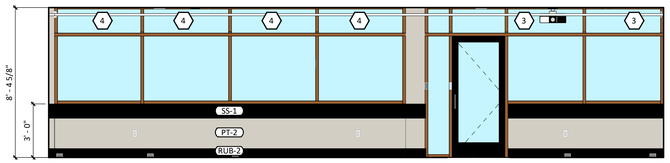
A-214

PROJECT # Project Number

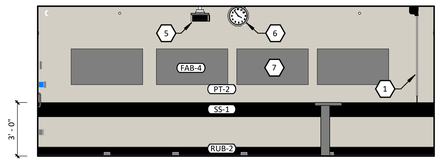
ENTIRE SHEET IS ADD ALTERNATE #4

INTERIOR ELEVATION KEYNOTES 126

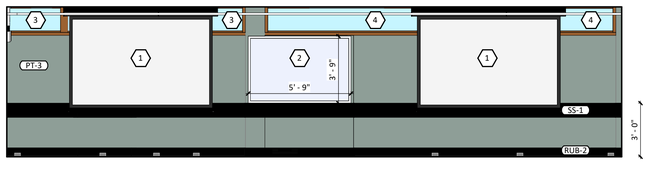
1 CEILING MOUNTED PROJECTOR SCREEN.
2 CUSTOM FIXED WHITEBOARD, NO TRAY. 5' 9 " X 3' 9". BASIS OF DESIGN: OPTIMA GREAT WHITE MAGNETIC WHITEBOARD.
3 NEW GLAZING IN EXISTING FRAME. MATCH EXISTING.
4 EXISTING GLAZING AND FRAME TO REMAIN.
5 CEILING MOUNTED PROJECTOR.
6 POE CLOCK VISIBLE TO EVERYONE IN ROOM.
7 ACOUSTIC WALL PANELS. BASIS OF DESIGN: ARMSTRONG FELTWORKS. SIZE: 2'x4', COLOR: DARK GREY (FDG). 0.75 NRC



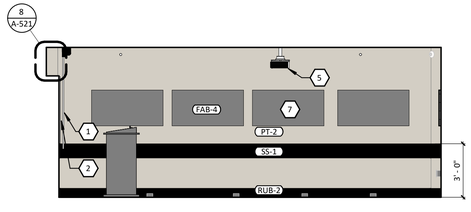
1 126 NORTH INTERIOR ELEVATION ALT. #4
1/4" = 1'-0"



2 126 EAST INTERIOR ELEVATION ALT. #4
1/4" = 1'-0"



3 126 SOUTH INTERIOR ELEVATION ALT. #4
1/4" = 1'-0"



4 126 WEST INTERIOR ELEVATION ALT. #4
1/4" = 1'-0"

PROJECT # Project Number

JACKOLA ENGINEERING & ARCHITECTURE
SINCE 1969 P.C.
Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

STATE OF MONTANA
CHELSEA N. HOLLING
27760
REGISTERED MONTANA ARCHITECT
BELGRADE

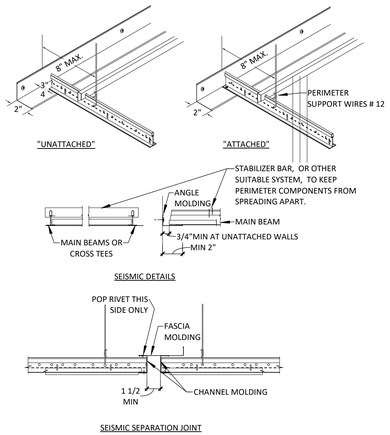
BID SET

REID HALL CLASSROOM RENOVATION
MONTANA STATE UNIVERSITY
REID HALL,
BOZEMAN, MONTANA 59717
PPA#: 25-1214

DRAWN: RH CHECKED: CH
DATE: 12/17/2025
REVISIONS:

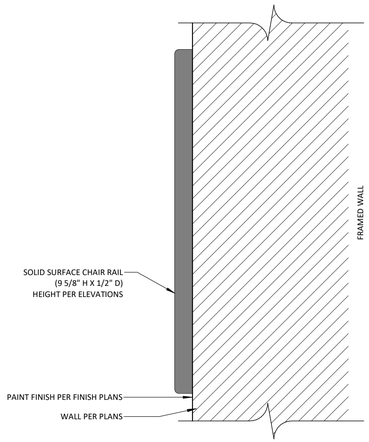
126 INTERIOR ELEVATIONS ALT. #4

A-215

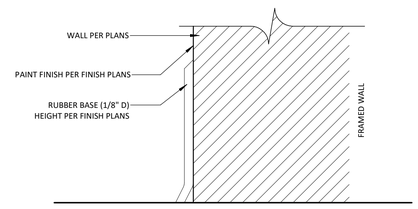


NOTES:
1. CEILING AREAS OVER 1,000 SF MUST HAVE HORIZONTAL RESTRAINT WIRE OR RIGID BRACING
2. USE HEAVY DUTY GRID SYSTEM
3. USE PERIMETER SUPPORT WIRES
4. CEILINGS WITHOUT RIGID BRACING MUST HAVE 2" OVERSIZED TRIM RINGS FOR SPRINKLERS AND OTHER PENETRATIONS
5. GRID MUST BE ATTACHED TO 2 ADJACENT WALLS, OPPOSITE WALLS MUST HAVE 3/4" CLEARANCE
6. MIN 2" WALL MOLDING

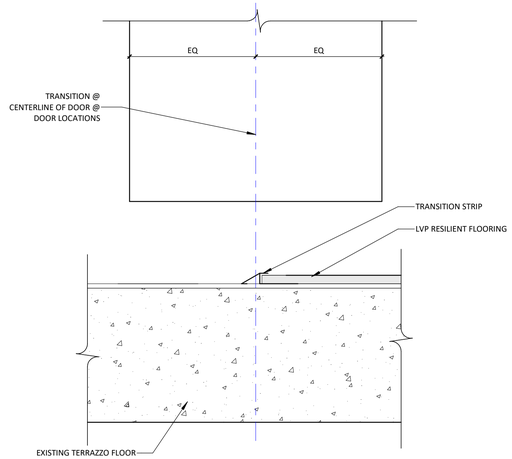
1 HUNG CEILING DETAILS - SEISMIC
1 1/2" = 1'-0"



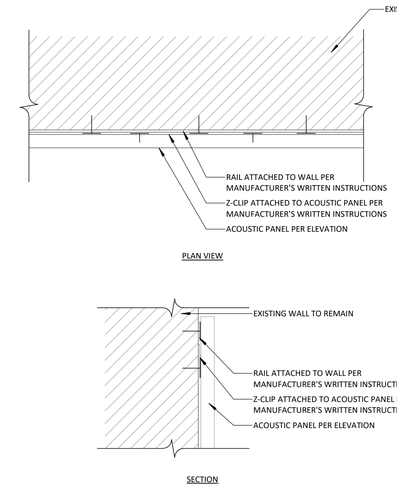
2 CHAIR RAIL DETAIL
6" = 1'-0"



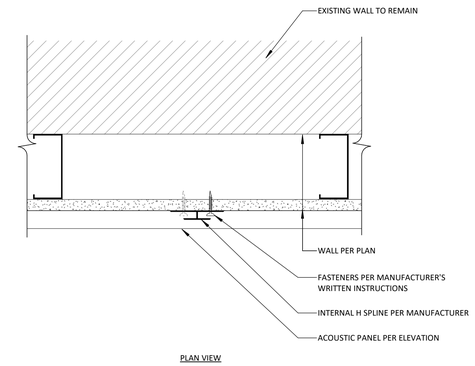
3 BASE DETAIL
6" = 1'-0"



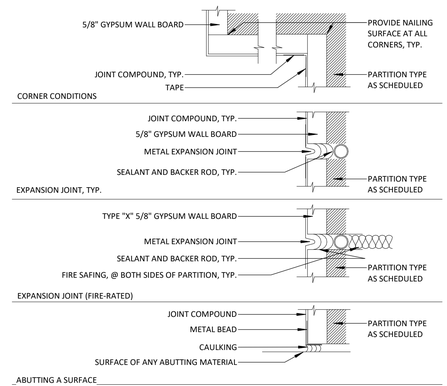
4 TRANSITION-TERRAZZO/RESILIENT(LVP)
6" = 1'-0"



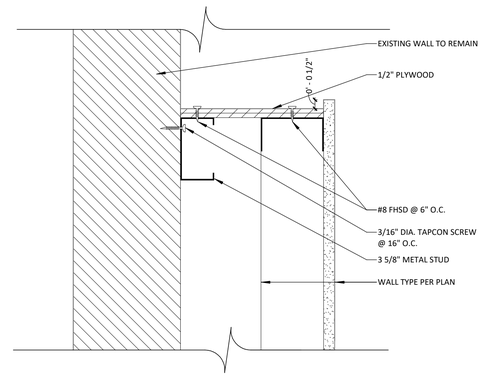
5 ACOUSTIC PANEL DETAIL - Z-CLIP
3" = 1'-0"



6 ACOUSTIC PANEL DETAIL - H SPLINE
3" = 1'-0"



7 GYPSUM WALLBOARD DETAIL
3" = 1'-0"



8 TOP OF FURRED WALL
3" = 1'-0"

PROJECT # Project Number

GENERAL INTERIOR NOTES:

A. GC TO COORDINATE WITH OWNER/EQUIPMENT SUPPLIER FOR REQUIRED DIM, CLEARANCES, AND ALL OTHER REQUIREMENTS PRIOR TO CASEWORK CONSTRUCTION/INSTALL.
B. ALL PRODUCTS ARE TO BE INSTALLED PER MANUFACTURERS INSTRUCTIONS, USING MANUFACTURERS ADHESIVES, TOOLS AND METHODS.
C. GWB TO HAVE SMOOTH TEXTURE. ALL GWB EDGES TO HAVE 3/4" SQUARE EDGES.
D. ALL WALL SUPPORTED CABINETRY, WHITEBOARDS AND SHELVING TO HAVE BLOCKING.
E. PROVIDE TRANSITION STRIPS AT ALL LOCATIONS WHERE DISSIMILAR FLOOR MATERIALS MEET.
F. FLOOR THRESHOLDS AND TRANSITION STRIPS MUST BE ADA ACCESSIBLE.
G. PROVIDE STAINLESS STEEL TRANSITION STRIPS/REDUCERS AT ALL LOCATIONS WHERE CERAMIC TILE MEETS A DIFFERENT MATERIAL.
H. PROVIDE APPROPRIATE TRANSITION STRIPS/REDUCERS AT ALL OTHER LOCATIONS BETWEEN DIFFERING MATERIALS UNLESS NOTED OTHERWISE. SEE TRANSITION CALL OUTS. ALL TRANSITIONS TO MEET ADA REQUIREMENTS. INSTALLATION TECHNIQUES SHALL CONFORM TO TILE COUNCIL OF AMERICA HANDBOOK AND REQUIREMENTS OF ANSI A137.1.
I. COORDINATE LOCATIONS OF ELECTRIC SWITCHES, PANELS, WATER SERVICE, TELEPHONE SERVICE, ETC. WITH UTILITIES COMPANIES. COORDINATE ALL WORK WITH THE MECHANICAL, PLUMBING & ELECTRICAL CONTRACTORS.
J. ALL INTERIOR FINISHES MUST COMPLY WITH GOVERNING CODES.
K. REFER TO SPECIFICATIONS AND FINISH SCHEDULES FOR FURTHER FINISH MATERIAL PRODUCT INFORMATION.
L. SEE ELEVATIONS FOR ADDITIONAL FINISHES FOR CEILING HEIGHTS AND ADDITIONAL FINISHES SEE RCP'S.
M. FIELD VERIFY ALL DIMENSIONS PRIOR TO FABRICATION.
N. ALL FLOOR TRANSITIONS ARE TO OCCUR DIRECTLY BENEATH DOOR UNLESS NOTED OTHERWISE.
O. ALL METAL ACCESS PANELS, COVER PLATES, VENTS AND GRILLES TO BE PAINTED TO MATCH THE SURFACE IT IS LOCATED ON, UNLESS PREFINISHED.

JACKOLA ENGINEERING & ARCHITECTURE PLLC
SINCE 1969
Engineering, Architecture, Surveying, Land Use Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

STATE OF MONTANA — CHELSEA N. HOLLING — 27760 — REGISTERED ARCHITECT — BELGRADE

BID SET

REID HALL CLASSROOM RENOVATION
MONTANA STATE UNIVERSITY

REID HALL,
BOZEMAN, MONTANA 59717
PPA#: 25-1214

DRAWN: MC CHECKED: CH

DATE: 12/17/2025

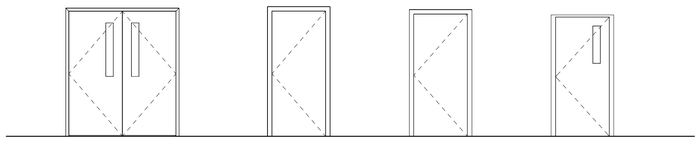
REVISIONS:

FINISH DETAILS

A-521

DOOR SCHEDULE

DOOR NO.	FROM		TO		SIZE	ELEVATION TYPE	DOOR MAT.	FRAME MAT.	LITE	HARDWARE	REMARKS
1	CLASSROOM	101	CIRCULATION	144	(2) 3' x 6'-10" x 1 3/4"	A	WD	WD	QUARTER	HDW-2 DOUBLE ENTRANCE	EXISTING FRAME TO REMAIN, NEW LEAF AND HARDWARE.
2	CLASSROOM	102	CIRCULATION	144	(2) 3' x 6'-10" x 1 3/4"	A	WD	WD	QUARTER	HDW-2 DOUBLE ENTRANCE	EXISTING FRAME TO REMAIN, NEW LEAF AND HARDWARE.
3	CLASSROOM	103	CIRCULATION	152	(2) 3' x 6'-10" x 1 3/4"	A	WD	WD	QUARTER	HDW-2 DOUBLE ENTRANCE	EXISTING FRAME TO REMAIN, NEW LEAF AND HARDWARE.
4	OUTSIDE	0	CLASSROOM	103	3-0" x 7'-0" x 1 3/4"	B	HM	HM	NONE	HDW-9 EXIT DOOR	EXISTING FRAME TO REMAIN, NEW LEAF AND PANIC HARDWARE.
5	CIRCULATION	105A	CIRCULATION	152	(2) 3' x 6'-10" x 1 3/4"	A	WD	WD	QUARTER	HDW-2 DOUBLE ENTRANCE	EXISTING FRAME TO REMAIN, NEW LEAF AND HARDWARE.
6	OUTSIDE	0	CIRCULATION	105B	3-0" x 7'-0" x 1 3/4"	B	HM	HM	NONE	HDW-9 EXIT DOOR	EXISTING FRAME TO REMAIN, NEW LEAF AND PANIC HARDWARE.
7	STAIR	105C	CIRCULATION	152	3'-0" x 6'-10" x 1 3/4"	C	WD	WD	NONE	HDW-1 SINGLE ENTRANCE	EXISTING FRAME TO REMAIN, NEW LEAF AND HARDWARE.
8	CLASSROOM SERVICE	106	CLASSROOM	105	3'-0" x 6'-10" x 1 3/4"	C	WD	WD	NONE	(none)	EXISTING FRAME, LEAF, AND HARDWARE TO REMAIN. NO CHANGES.
9	CIRCULATION	149	CLASSROOM	126	3'-0" x 6'-8" x 1 3/4"	D	WD	WD	QUARTER	HDW-1 SINGLE ENTRANCE	NEW FRAME, LEAF, AND HARDWARE.



A — DOUBLE WOOD DOOR QUARTER LITE

B — EXISTING INSULATED HOLLOW METAL DOOR

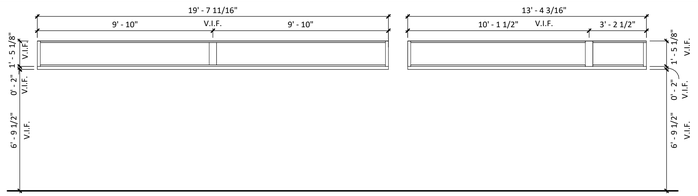
C — INTERIOR WOOD DOOR

D — INTERIOR WOOD DOOR QUARTER LITE

1 DOOR LEGEND

1/4" = 1'-0"

0 2' 4' 8'



2 TRANSOM WINDOW LEGEND

1/4" = 1'-0"

0 2' 4' 8'

AL - ALUMINUM
HM - HOLLOW METAL, WELDED STEEL
WD - WOOD

GENERAL NOTES:
1. HARDWARE:
HINGES: BY STANLEY, HAGER OR APPROVED EQUAL.
LOCKSETS: BY SARGENT, ADAMS-RITE, SCHLAGE OR APPROVED EQUAL .
CLOSER: BY LCN, DORMA OR APPROVED EQUAL.
WEATHERSTRIPPING, THRESHOLD, AND SWEEP: BY PEMKO OR APPROVED EQUAL
KEY SYSTEM - - SARGENT (CY-1) CYLINDERS FOR ALUMINUM ENTRANCES.

2. CONTRACTOR RESPONSIBLE TO NOTIFY DESIGNER OF SUBSTITUTIONS FOR NOTED HARDWARE.
3. DOOR & DOOR HARDWARE SUBMITTAL REQUIRED.
4. HOLLOW METAL DOORS: 18 GAUGE METAL. HOLLOW METAL DOOR FRAMES: 16 GAUGE AND WELD UP.
5. KNOCKDOWN FRAMES: 18 GA

DOOR HARDWARE

HDW	HARDWARE
HDW-1 SINGLE ENTRANCE	RIM EXIT DEVICE 1 CYLINDER LOCK 1 SET PIVOTS 1 CLOSER (specify drop plate if used on medium or narrow style alum. doors) PULL HANDLE 1 THRESHOLD WEATHERSTRIPPING PILE WEATHERING
HDW-2 DOUBLE ENTRANCE	2 RIM EXIT DEVICES 1 CYLINDER LOCK 2 SETS PIVOTS 2 CLOSER (specify drop plate if used on medium or narrow style alum. doors) PULL HANDLES 1 THRESHOLD WEATHERSTRIPPING 2 PILE WEATHERING 1 PAIR FLUSH BOLTS
HDW-9 EXIT DOOR	1 1/2 PR BUTTS 1 RIM EXIT DEVICE 1 CYLINDER LOCK 1 CLOSER 1 PULL HANDLE 1 THRESHOLD 1 SWEEP WEATHERSTRIPPING

HARDWARE NOTE:
CLASSROOMS ARE ACCESS CONTROLLED AND WILL NEED TO BE REWIRED UPON COMPLETION. ALL HARDWARE AND LOCKS SHOULD BE RETURNED TO ACCESS CONTROL.

JACKOLA ENGINEERING & ARCHITECTURE PLLC
SINCE 1969
Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

STATE OF MONTANA — CHELSEA N. HOLLING — 27780 — REGISTERED ARCHITECT — BELGRADE

BID SET

REID HALL CLASSROOM RENOVATION
MONTANA STATE UNIVERSITY

REID HALL,
BOZEMAN, MONTANA 59717
PPA#: 25-1214

DRAWN: KE CHECKED: CH

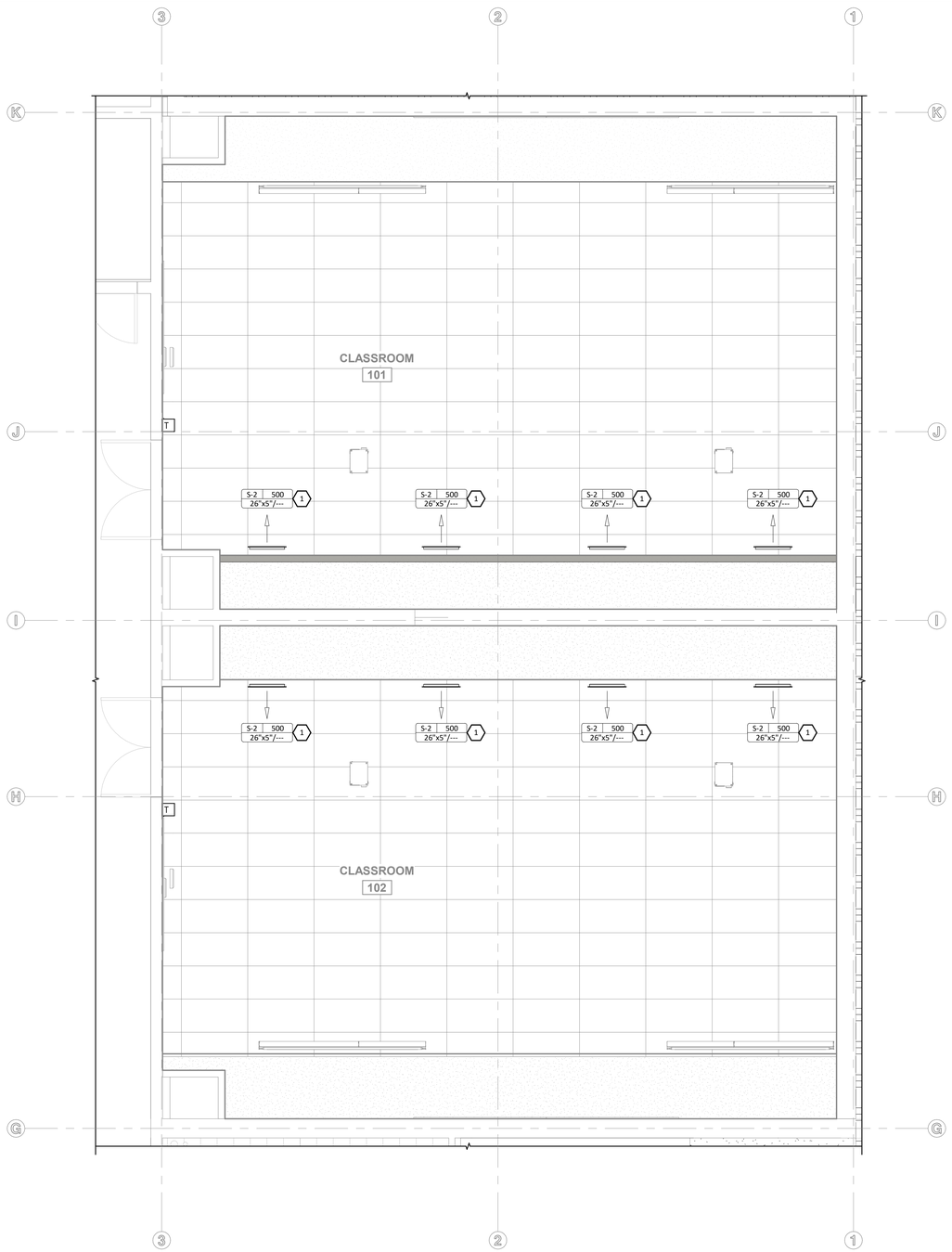
DATE: 12/17/2025

REVISIONS:

DOOR AND WINDOW SCHEDULES

A-601

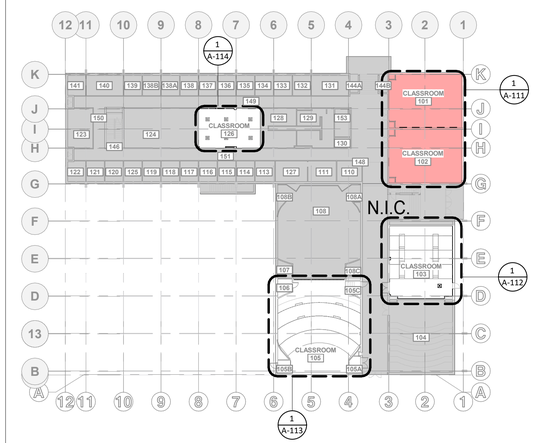
PROJECT # Project Number



1 101/102 HVAC CEILING PLAN
1/4" = 1'-0"
0 2' 4' 8'

HVAC KEYNOTES 101/102

1 DEMO EXISTING SUPPLY DIFFUSER AND REPLACE WITH NEW DIFFUSER PER SCHEDULE ON M-161.



KEY PLAN

JACKOLA ENGINEERING & ARCHITECTURE
SINCE 1969 P.C.
Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

MONTANA
BLAKE JOSEPH BARSHAK
No. 67431 PE
LICENSED PROFESSIONAL ENGINEER

BID SET

REID HALL CLASSROOM RENOVATION
MONTANA STATE UNIVERSITY

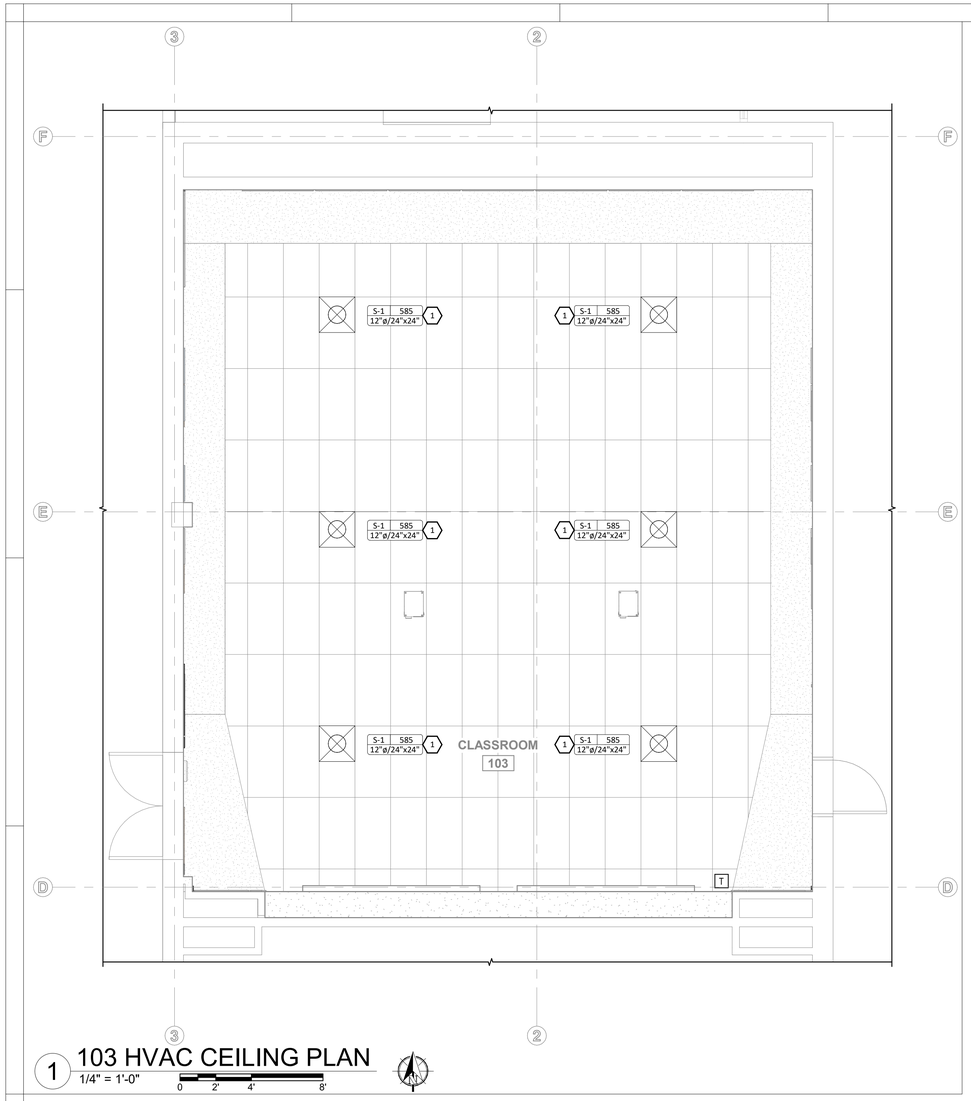
REID HALL,
BOZEMAN, MONTANA 59717
PPA#: 25-1214

DRAWN: BJB CHECKED: BJB
DATE: 12/17/2025
REVISIONS:

101/102 HVAC CELING PLAN

M-121

PROJECT # Project Number



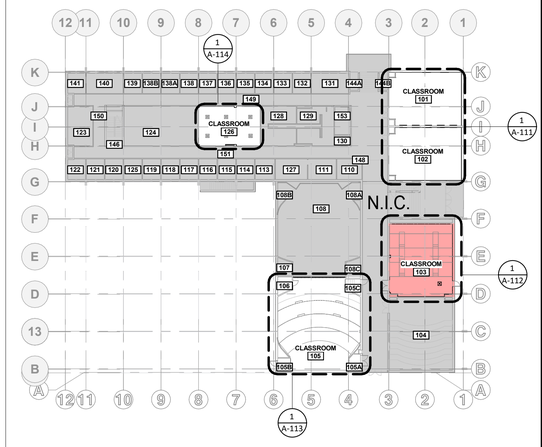
1 103 HVAC CEILING PLAN

1/4" = 1'-0" 0 2' 4' 8'

ENTIRE SHEET IS ADD ALTERNATE #2

HVAC KEYNOTES 103

1 DEMO EXISTING SUPPLY DIFFUSER AND REPLACE WITH NEW DIFFUSER PER SCHEDULE ON M-161.



KEY PLAN

JACKOLA ENGINEERING & ARCHITECTURE PC
SINCE 1969
Engineering, Architecture, Surveying, Land Use, Planning

KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

MONTANA BLAKE JOSEPH BARSHAK 67431 PE LICENSED PROFESSIONAL ENGINEER

BID SET

REID HALL CLASSROOM RENOVATION
MONTANA STATE UNIVERSITY

REID HALL,
BOZEMAN, MONTANA 59717
PPA#: 25-1214

DRAWN: BJB CHECKED: BJB

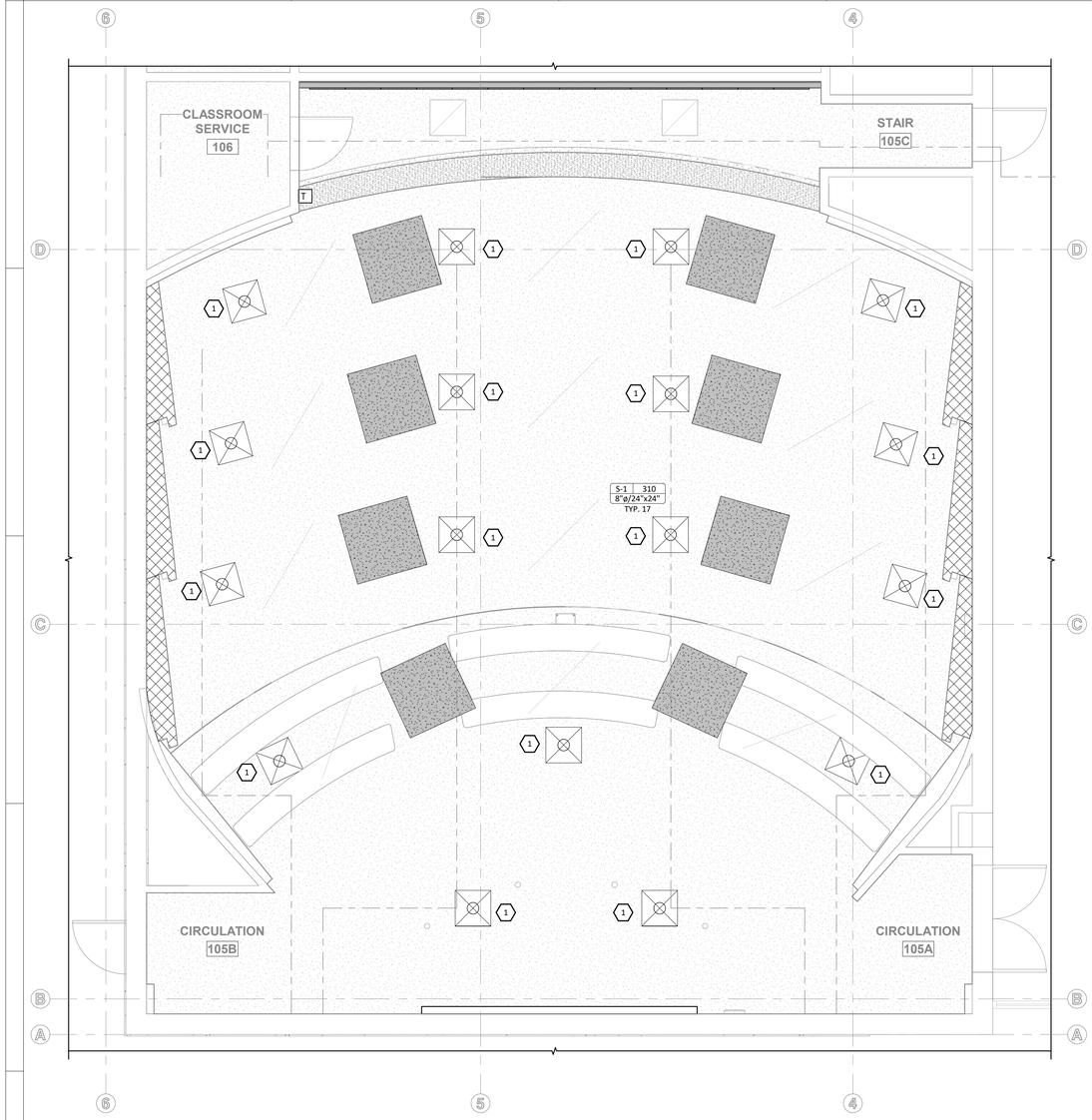
DATE: 12/17/2025

REVISIONS:

103 REFLECTED CELING PLAN

M-122

PROJECT # Project Number

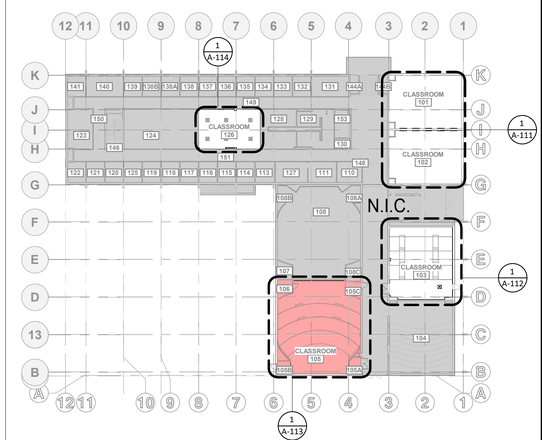


1 105 HVAC CEILING PLAN
1/4" = 1'-0"
0 2' 4' 8'

ENTIRE SHEET IS ADD ALTERNATE #1

HVAC KEYNOTES 105

1 DEMO EXISTING SUPPLY DIFFUSER AND REPLACE WITH NEW DIFFUSER PER SCHEDULE ON M-161.



KEY PLAN N.I.C.

JACKOLA ENGINEERING & ARCHITECTURE PC
SINCE 1969
Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

MONTANA
BLAKE JOSEPH BARSHAK
No. 67431 PE
LICENSED PROFESSIONAL ENGINEER

BID SET

REID HALL CLASSROOM RENOVATION
MONTANA STATE UNIVERSITY

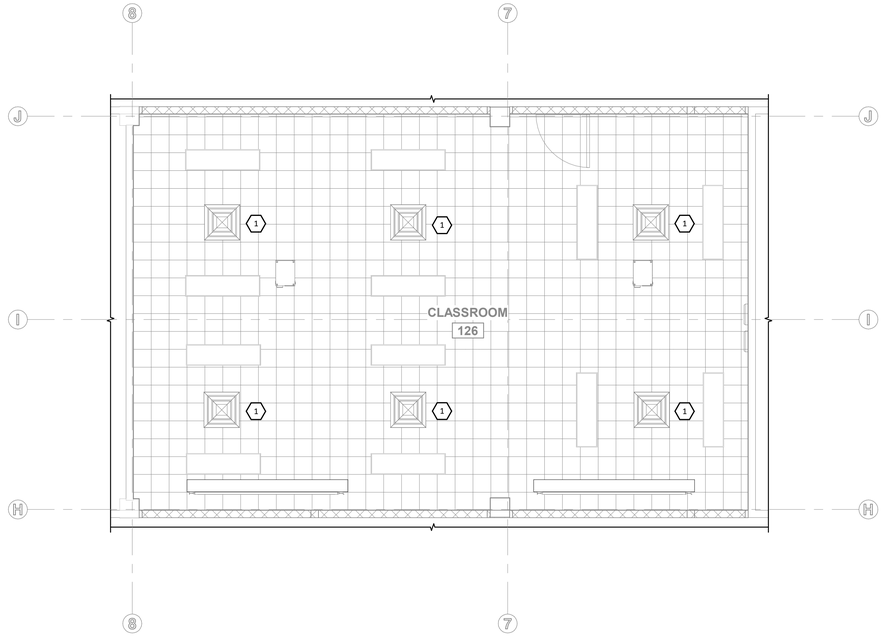
REID HALL,
BOZEMAN, MONTANA 59717
PPA#: 25-1214

DRAWN: BJB CHECKED: BJB
DATE: 12/17/2025
REVISIONS:

105 REFLECTED CELING PLAN

M-123

PROJECT # Project Number

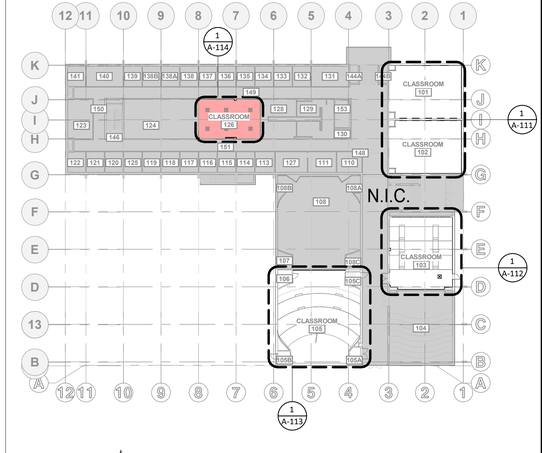


1 126 HVAC CEILING PLAN
1/4" = 1'-0"
0 2' 4' 8'

ENTIRE SHEET IS ADD ALTERNATE #3

HVAC KEYNOTES 126

1 EXISTING SUPPLY DIFFUSER TO BE CLEAN, PAINTED WHITE TO MATCH CEILING, AND REINSTALLED.



KEY PLAN

JACKOLA ENGINEERING & ARCHITECTURE PLLC
SINCE 1969 P.C.
Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

MONTANA
BLAKE JOSEPH BARSHAK
No. 67431 PE
LICENSED PROFESSIONAL ENGINEER

BID SET

REID HALL CLASSROOM RENOVATION
MONTANA STATE UNIVERSITY

REID HALL,
BOZEMAN, MONTANA 59717
PPA#: 25-1214

DRAWN: BJB CHECKED: BJB
DATE: 12/17/2025
REVISIONS:

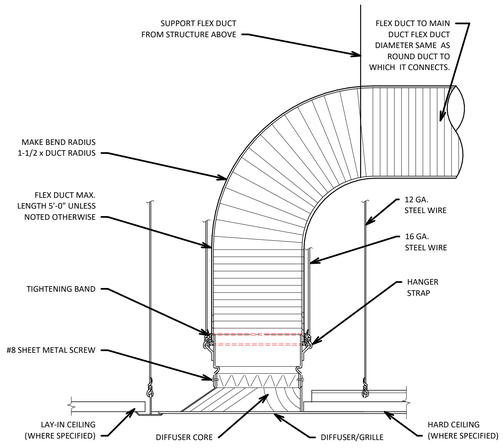
126 REFLECTED CELING PLAN

M-124

PROJECT # Project Number

INTERIOR AIR INLETS & OUTLETS SCHEDULE

TAG	DESCRIPTION	BASIS OF DESIGN		FINISH	FACE SIZE	NECK SIZE	INSTALLATION		REMARKS
		MANUFACTURER	MODEL NO.				BORDER TYPE	DAMPER	
S-1	3-CONE DIFFUSER	TITUS	TMS-AA	WHITE ENAMEL	24"x24"	8"ø	TYPE 3 (LAY-IN)	---	
S-1	3-CONE DIFFUSER	TITUS	TMS-AA	WHITE ENAMEL	24"x24"	12"ø	TYPE 3 (LAY-IN)	---	
S-2	LOUVERED DOUBLE DEFLECTION GRILLE	TITUS	300FS	WHITE ENAMEL	---	26"x5"	TYPE 1 (SURFACE)	---	



1 CEILING DIFFUSER GRILLE
1/8" = 1'-0"

PROJECT # Project Number

JACKOLA ENGINEERING & ARCHITECTURE PC
SINCE 1969
Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com | jackola.com

MONTANA
BLAKE JOSEPH BARTKIAK
No. 67431 PE
Registered
LICENSED PROFESSIONAL ENGINEER

BID SET

REID HALL CLASSROOM RENOVATION
MONTANA STATE UNIVERSITY

REID HALL,
BOZEMAN, MONTANA 59717
PPA#: 25-1214

DRAWN: BJB CHECKED: BJB

DATE: 12/17/2025

REVISIONS:

MECHANICAL DETAILS & SCHEDULES

M-601

PROJECT INFORMATION

Reid Hall Renovation . Electrical, Lighting & Technology

Reid Hall
Bozeman, MT 59717

Construction Documents

Date Issued | 12.17.2025
Project Manager | Andrew Moore

Issue

SHEET INDEX & REVISION HISTORY

ABBREVIATIONS

A, AMP	Ampere	LV	Low Voltage
AIC	Amps Interrupting Capacity	LVR	Low Voltage Relay
AC	Alternating Current	MCB	Main Circuit Breaker
AFCI	Arc-Fault Circuit Interrupter	MDP	Main Distribution Panel
AFF	Above Finished Floor	MFGR	Manufacturer
AFG	Above Finished Grade	MIN	Minimum
ATS	Automatic Transfer Switch	MLO	Main Lug Only
AV	Audio Visual	MSB	Main Switchboard
AWG	American Wire Gauge	MV	Medium Voltage
BAS	Building Automation System	N	Neutral
BTU	British Thermal Units	(N)	New
C, CDT	Conduit	NA, N/A	Not Applicable
CB	Circuit Breaker	NEMA	National Electrical Manufacturer Association
CKT	Circuit		
CL	Centerline	N.C.	Normally Closed
CLG	Ceiling	N.O.	Normally Open
CO	Carbon Monoxide	NTS	Not to Scale
C.O.	Conduit Only	OCPD	Overcurrent Protective Device
CT	Current Transformer	P	Poles
CU	Copper	PB	Pullbox
DDC	Digital Data Control	PH	Phase
DWG	Drawing	PNL	Panelboard
(E)	Existing	POE	Power Over Ethernet
E.C.	Electrical Contractor	PWR	Power
ELEC	Electric / Electrical	RECPT	Receptacle
EM	Emergency	RS	Rigid Steel
EMT	Electrical Metallic Tubing	SD	Smoke Detector
EQ	Equal	SHT	Sheet
FA	Fire Alarm	SOH	Standard Outlet Height
FACP	Fire Alarm Control Panel	SP	Spare
FBO	Furnished by Others	SPEC	Specification
FLA	Full Load Amps	SPD	Surge Protective Device
FSD	Fire Smoke Damper	SS	Surge Supression
G, GND	Ground	SW	Switch
G.C.	General Contractor	SWBD	Switchboard
GEN	Generator	SWGR	Switchgear
GFCI	Ground-Fault Circuit Interrupter	TEMP	Temporary
HP	Horse Power	TVSS	Transient Voltage Surge Suppressor
IBEC	Installed by Electrical Contractor	TYP	Typical
IG	Isolated Ground	UG	Underground
J, JB	Junction Box	UON	Unless Otherwise Noted
KV	Kilovolt	UPS	Uninterruptible Power Supply
KVA	Kilovolt Ampere	V	Voltage
KW	Kilowatt	VA	Volt Amperes
KWH	Kilowatt Hour	W	Watt
LCP	Lighting Control Panel	WD	Warm Dim or Water Detector
LTG	Lighting	WP	Weatherproof
		XFMR	Transformer

GENERAL NOTES

1. All work shall be installed in accordance with the latest National Electrical Code (NEC) and all local codes having jurisdiction. General work practices for construction shall be in accordance with NECA 1 standard for good workmanship in electrical construction (ANSI).
2. All materials provided by the contractor shall be new and free of defects, listed / labeled for the intended purpose by Underwriters (UL) or other organization that is acceptable to the AHJ.
3. The contractor is responsible for providing all equipment required to complete the project. Any bill of materials referenced in this plan set is for reference only to illustrate design intent.
4. The contractor is responsible for laying out all work to conform to NEC clearances, architectural, structural, mechanical, and site conditions, to avoid obstructions and to allow the proper installation of each item. Coordinate with drawings of other trades to fit the actual space conditions.
5. Upon the completion of the work, the entire electrical system shall be tested and shall be shown to be in proper working condition in accordance with the intent of the specifications and drawings. It shall be the responsibility of the contractor to have all systems ready for operation and inspection by AHJ.
6. Electrical contractor to verify actual installed equipment electrical name plate data before energizing the circuit. Confirm electrical design values and actual equipment being installed in compliance with electrical code and manufacturer installation requirements.
7. Conduit runs are diagrammatic. Final location and routing shall be established by the contractor based on the installation conditions and shall be verified in the field. All conduit types and installation requirements shall be in accordance with the specifications. Where conductor and cable routing are not shown on the plans, contractor shall determine routing and lengths required.
8. Provide conduit expansion fittings with bonding jumpers to allow for thermal expansion and contraction where necessary, per NEC 300.7(B).
9. Provide support for conductors in vertical conduits per NEC 300.19. Support conduit using steel pipe straps, lay-in adjustable hangers, clevis hangers, or split hangers. Hanger spacing shall be installed per NEC requirements for the type of conduit being installed.
10. Provide pull or junction boxes where required to facilitate the installation of conductors. Bends in conduit between pull boxes shall not exceed a total of 360-degrees.
11. Provide branch circuit wiring to all items requiring electrical connections. Where branch circuit wiring is not shown, connect items to circuits indicated. Unless indicated otherwise, all branch circuits shall be minimum #12 AWG.
12. Provide independent support for disconnect switches, control stations, boxes, panels, etc. where no walls or other structural surface exists.
13. Provide disconnect switches for HVAC equipment within eyesight of the equipment.
14. Contractor shall provide signage to all electrical boxes, junction boxes, disconnects, conduit runs, subpanels, and main service equipment.
15. Grounding system: Permanently and effectively ground all metallic conduit, supports, cabinets, panelboards, and system neutral conductors. Maintain continuity of equipment ground throughout the system. Ground clamps shall be approved type, specifically designed for grounding. Where grounding conductor is enclosed in conduit, ground clamp shall be of a type which grounds both conductor and conduit. All circuits in flexible metal or plastic conduit shall include a ground wire sized in accordance with NEC.
16. Conductors: Copper with color coding, #10 AWG and smaller to be solid or stranded, #8 AWG and larger to be stranded. Minimum #12 AWG unless otherwise indicated. Aluminum conductors permitted for feeders 100A and larger. Conductors must be installed in accordance with NEC and cannot be supported from ceiling support wires. All power conductors in conduit shall be THWN-2, XHHN-2, RHW-2, PVWIRE, or XLPE.
17. All smoke detectors to be listed and installed in accordance with the latest edition of NFPA 72. Smoke detectors to be wired together and receive primary power from the buildings wiring.
18. Submittals shall be provided by the installer for Blacksheep review and approved prior to ordering.
19. The EC may submit substitution requests for prior approval no less than 10 days prior to bid date. Blacksheep separates prior approval packages for luminaires & controls. The EC shall break out separate line items for each to prevent 'lockout' of pricing respective to this project.
20. It is the responsibility of the EC and GC to schedule the following milestones with the lighting designer, no less than 1 week prior to the requested date.
    A. Rough-In Inspection - prior to drywall/finish work.
    B. Punch List / Aiming - once artwork and furniture is installed. If a punch list is required prior to the site being ready for aiming, additional construction administration cost (an additional site visit) will be incurred to the project.
    C. Where directional (aimable) luminaires are present in the design, EC shall include time for aiming luminaires with Blacksheep oversight. Pre-aiming diagrams have been provided on the construction documents and these initial settings will save time during the final aiming visit. EC may request an estimate of time per project for bidding aiming time, based on products utilized and scale of project. Minimum one (1) day of on-site coordination.

SYMBOL LEGEND

Symbols listed below are for reference and for the use in understanding the design intent. Not all symbols listed below are necessarily used elsewhere in the construction documents. Cabling information is for reference only; All devices need to be assessed on an individual basis. Halftone symbols represent scope that is not included in the construction documents.

Electrical

- NEMA 5-15R / 5-20R, Mounted Vertically, Non-Essential Power
- NEMA 5-15R / 5-20R, Mounted Horizontally, Non-Essential Power
- NEMA 5-15R Quadruplex
- Unfilled = Protected by GFCI Breaker
  Filled = GFCI Receptacle
- Unfilled = Weatherproof Receptacle
  Filled = Weatherproof Receptacle, In-Use
- Red = Essential Power
  Blue = Optional Standby Power
- Half-Switched Receptacle
  '+_' Indicates Height AFF
- NEMA 6-X0R, 250V, 2-Pole; Number Indicates Amperage (i.e., 2 = 20A)
- NEMA 14-X0R, 250/125V, 2-Pole w/ Neutral; Number Indicates Amperage
- NEMA 15-X0R, 250V, 3-Pole; Number Indicates Amperage
- NEMA L6-X0R, 250V, 2-Pole; Number Indicates Amperage
- NEMA L14-X0R, 250/125V, 2-Pole w/ Neutral; Number Indicates Amperage
- NEMA L15-X0R, 250V, 3-Pole; Number Indicates Amperage
- Electrical Provision or Equipment Connection Provision
- Electrical Floor Receptacle, Flush Mounted
- Junction Box, Mounted Above Accessible Ceiling
- Junction Box, Recessed Wall Mounted
- Junction Box, Flush Floor Mounted
- Wiremold Power Outlet Strip
- Non-Fused Disconnect Switch, Surface Mounted
- Fused Disconnect Switch, Surface Mounted
- Panelboard, Flush Mounted
- Panelboard, Surface Mounted
- Push Button | EPO = Emergency Power Off
- Manual Motor Start / Switch
- Inverter

Fire & Life Safety

- Smoke Detector
- Combination Smoke/CO Detector
- Heat Detector
- Carbon Monoxide Detector
- Gas Detector
- Horn Strobe
- Strobe
- Sprinkler Flow Switch
- Tamper Switch

Lighting Luminaires

- Bollard
- Ceiling Mounted
- Wall Mounted
- Uplight | In-Grade
- Recessed Downlight | Round or Square
- Pendant | Round or Square
- Art Light | Wall Mounted
- Linear LED
- Linear LED Vertical | Recessed or Surface
- Linear | Recessed
- Linear | Surface
- Linear | Suspended
- Step Light
- Track & Track Heads
- Monopoint | Ceiling or Wall Mounted
- Pole Mounted, Below | Round or Square
- Pole Mounted, Side | Round or Square
- Exit Sign | Ceiling Mounted
  Shade Denotes Face Read
  Arrow Denotes Directional Sign
- Exit Sign | Wall Mounted
  Shade Denotes Face Read
  Arrow Denotes Directional Sign
- Exit Sign w/ Emergency Lighting | Wall Mounted
  Shade Denotes Face Read
  Arrow Denotes Directional Sign
- Emergency Lighting Unit
- Half Switch Receptacle | For System Control Only
- Floor Half Switch Receptacle | For System Control Only
- Exhaust Fan | For System Control Only
- Electric Patio Heater | For System Control Only
- Fireplace | 120V System Control

Lighting Control | Shades | Environmental

- Lighting Control Panel
- Lighting Control Dimming Panel
- Lighting Repeater
- Lighting/Shade Keypad
- Occupancy Sensor
- Fireplace Control
- Dimmer
- Remote Dimmer - 3-Way
- Switch
- Remote Switch - 3-Way
- Non-Controlled Dimmer/Switch (Provided by the EC)
- Power Pack
- Low Voltage Driver
- Shade Panel
- Single Roller Motorized Shade
- Dual Roller Motorized Shade
- Motorized Drape
- Electronic Smart Glass

Communications | Audio | Video

- Cabling Enclosure
- Data Outlet
- Wireless Access Point
- Touch Panel
- Control RF Gateway
- Control System Integration Wiring
- Television
- Projector
- Classroom AV Location
- Clock
- Microphone
- Conference Camera
- Speaker
- Subwoofer
- Remote Control
- Backbox
- Equipment Rack

Security & Surveillance

- Security Panel
- Security Keypad
- Cellular Communicator
- RF Receiver
- RF Repeater
- Door / Window Contact Sensor
- Motion Detector
- Glass Break Sensor
- Interior Siren
- Sewage Ejector Interface
- Water / Flood Sensor
- Low Temperature Sensor
- Wireless Flood / Low Temp Sensor
- Water Shutoff Valve
- Surveillance Camera

Access Control

- Access Control Panel
- Access Control Interface
- Access Control Lock

General Drawing Symbols

- Callout View Tag
- Keynote Tag
- Lighting Tag w/ Circuit ID
- Mechanical Equipment Tag w/ Circuit ID
- Elevation Tag
- Electrical Equipment Tag
- Section Head & Tail
- Technology Tag w/ Cable ID

JACKOLA ENGINEERING & ARCHITECTURE
SINCE 1969 PC
Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL | BOZEMAN | VANCOUVER
406-755-3208 | 406-586-0707 | 360-852-8746
info@jackola.com | jackola.com

BLACK SHEEP
Mechanical | Electrical | Plumbing | Lighting | Technology
602 W Hemlock | Bozeman, MT 59715
Blacksheep-engineering | 406.312.5774

Construction Documents

MONTANA
ANDREW S. MOORE
No. 38404PE
REGISTERED PROFESSIONAL ENGINEER

Reid Hall Renovation
Reid Hall
Bozeman, MT 59717

DRAWN: APH CHECKED: ASM

DATE: 12/17/2025

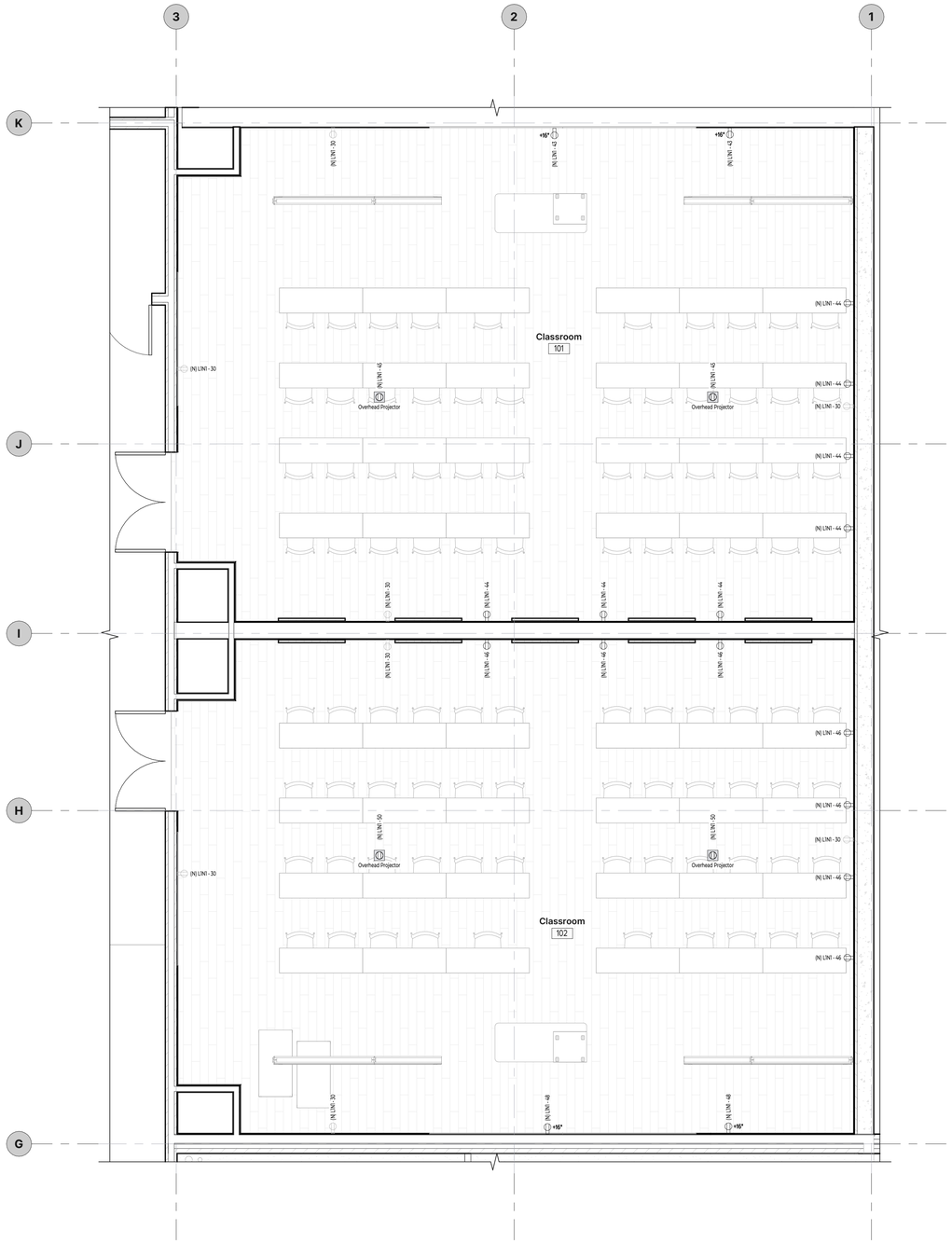
REVISIONS:

ELECTRICAL, LIGHTING & TECHNOLOGY INDEX

E000

PROJECT # Project Number

Reference Keynotes



1 101/102 Electrical Plan
1/4" = 1'-0"

JACKOLA ENGINEERING & ARCHITECTURE, PLLC
SINCE 1969
Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

BLACK SHEEP
Mechanical | Electrical | Plumbing | Lighting | Technology
602 W Hemlock | Bozeman, MT 59715
Blacksheep-engineering | 406.312.5774

Construction Documents

MONTANA
ANDREW S. MOORE
No. 38404PE
LICENSED PROFESSIONAL ENGINEER

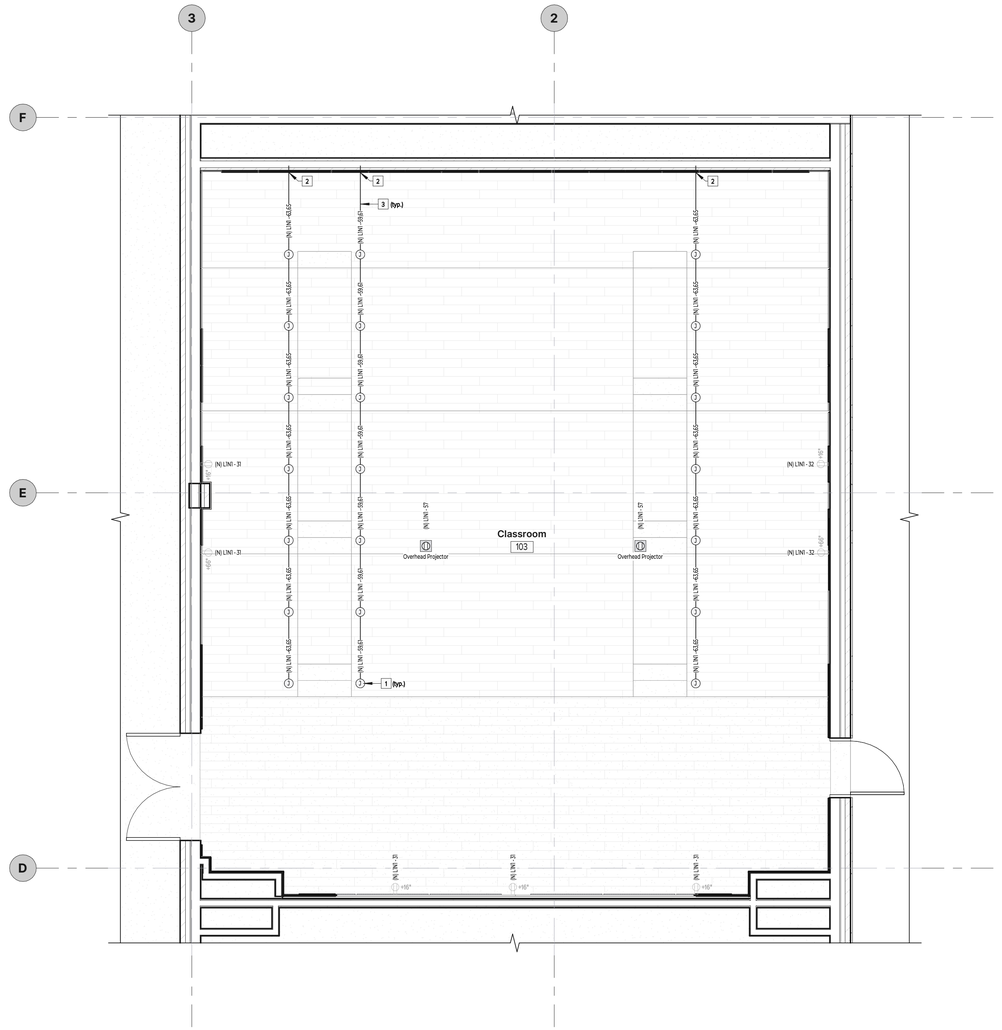
Reid Hall Renovation
Reid Hall
Bozeman, MT 59717

DRAWN: APH CHECKED: ASM
DATE: 12/17/2025
REVISIONS:

101/102 ELECTRICAL PLAN

E111

PROJECT # Project Number



1 **103 Electrical Plan**
1/4" = 1'-0"

Reference Keynotes

1. PVC stub into stationary table leg. Reference furniture drawings for exact dimensions.
2. Route conduit to recessed junction box in wall at 1'-6" AFF.
3. 3/4" PVC conduit in trench. Cutting and backfill by others.

JACKOLA ENGINEERING & ARCHITECTURE PLLC
SINCE 1969
Engineering, Architecture, Surveying, Land Use, Planning

KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

BLACK SHEEP
Mechanical | Electrical | Plumbing | Lighting | Technology
602 W Hemlock | Bozeman, MT 59715
Blacksheep-engineering | 406.312.5714

Construction Documents

MONTANA
ANDREW S. MOORE
No. 38404PE
LICENSED PROFESSIONAL ENGINEER

Reid Hall Renovation

Reid Hall
Bozeman, MT 59717

DRAWN: APH CHECKED: ASM

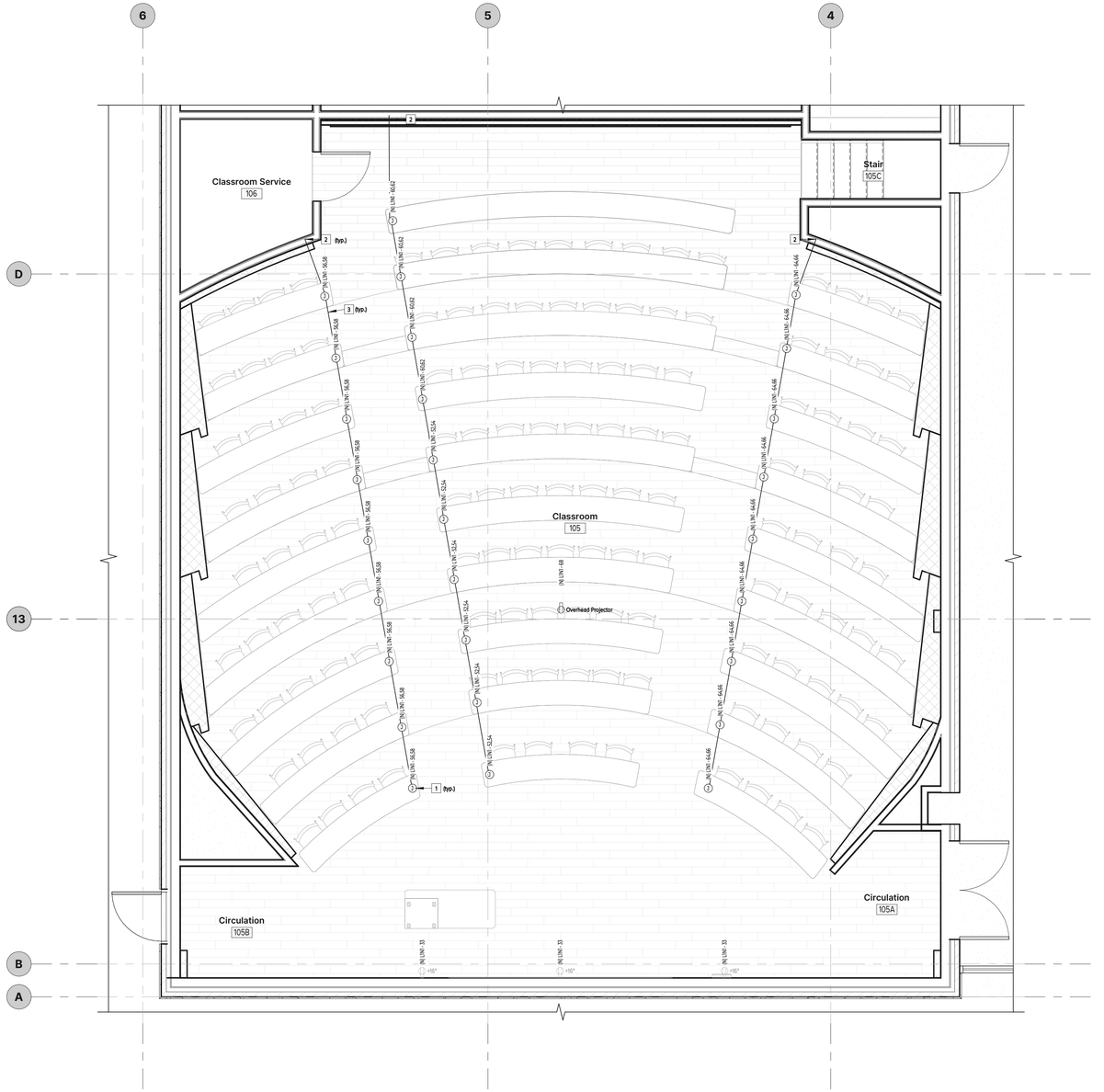
DATE: 12/17/2025

REVISIONS:

103 ELECTRICAL PLAN

E112

PROJECT # Project Number



1 **105 Electrical Plan**
1/4" = 1'-0"

Reference Keynotes

1. PVC stub into stationary table leg. Reference furniture drawings for exact dimensions.
2. Route conduit to recessed junction box in wall at 1'-6" AFF.
3. 3/4" PVC conduit in trench. Cutting and backfill by others.

JACKOLA ENGINEERING & ARCHITECTURE, PLLC
SINCE 1969
Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

BLACK SHEEP
Mechanical | Electrical | Plumbing | Lighting | Technology
602 W Hemlock | Bozeman, MT 59715
Blacksheep-engineering | 406.312.5714

Construction Documents

MONTANA
ANDREW S. MOORE
No. 38404PE
PROFESSIONAL LICENSED ENGINEER

Reid Hall Renovation

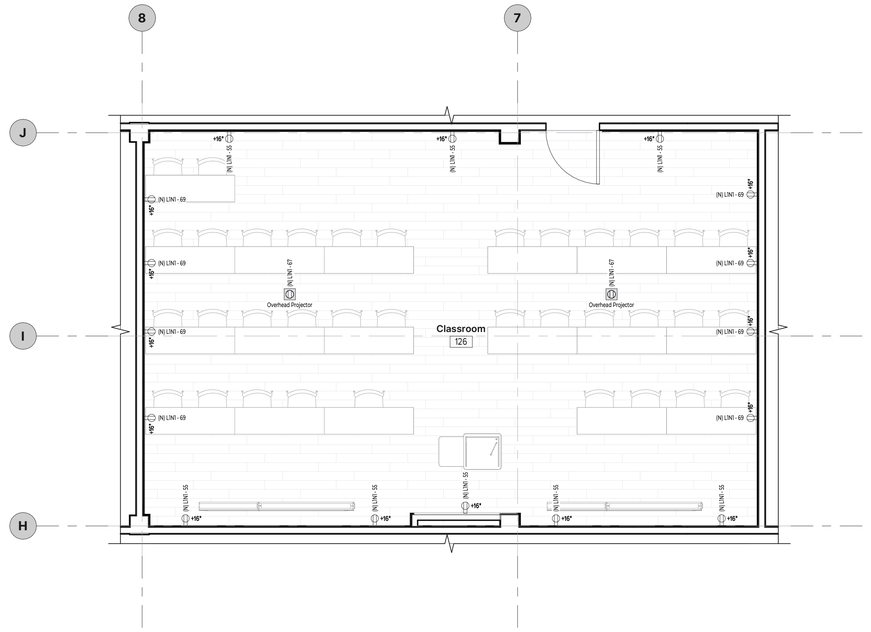
Reid Hall
Bozeman, MT 59717

DRAWN: APH CHECKED: ASM
DATE: 12/17/2025
REVISIONS:

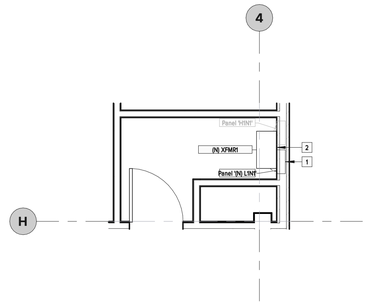
105 ELECTRICAL PLAN

E113

PROJECT # Project Number



1 **126 Electrical Plan**
1/4" = 1'-0"



2 **Janitor Closet Electrical Plan**
1/4" = 1'-0"

Reference Keynotes

1. EC to demolish and replace existing 208Y/120V electrical panel due to limited breaker space in existing panel.
2. EC to demolish and replace existing transformer. E.C. shall ensure minimum clearances are met prior to installation. Refer to one-line diagram on sheet E610 for additional information.

JACKOLA ENGINEERING & ARCHITECTURE PLLC
SINCE 1969
Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL | 406-755-3208 | BOZEMAN | 406-586-0707 | VANCOUVER | 360-852-8746
info@jackola.com jackola.com

BLACK SHEEP
Mechanical | Electrical | Plumbing | Lighting | Technology
602 W Hemlock | Bozeman, MT 59715
Blacksheep.engineering | 406.312.5774

Construction Documents

MONTANA
ANDREW S. MOORE
No. 38404PE
LICENSED PROFESSIONAL ENGINEER

Reid Hall Renovation

Reid Hall
Bozeman, MT 59717

DRAWN: APH CHECKED: ASM

DATE: 12/17/2025

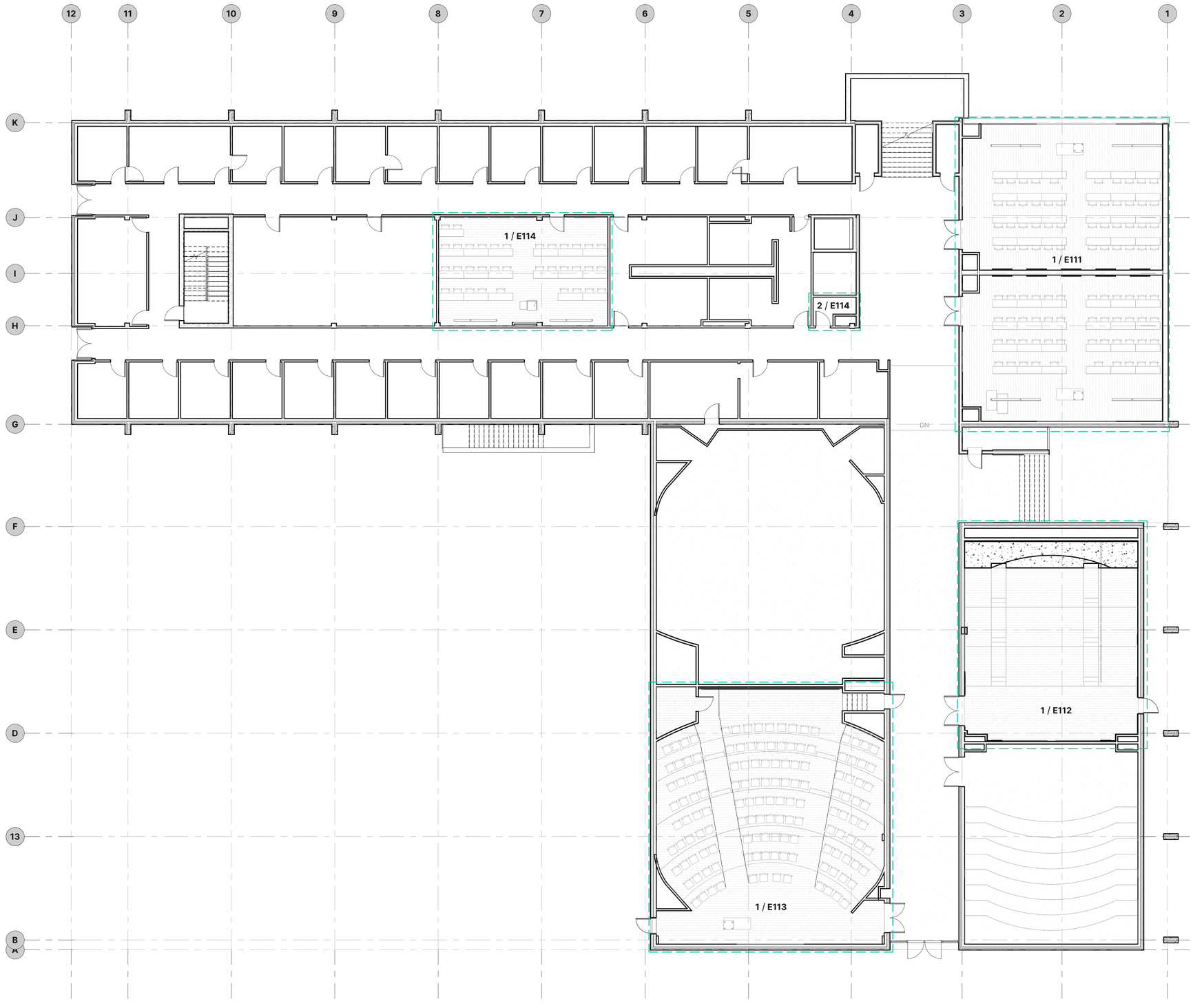
REVISIONS:

126 ELECTRICAL PLAN

E114

PROJECT # Project Number

Reference Keynotes



1 First Floor Electrical Plan
1" = 10'-0"

PROJECT # Project Number

JACKOLA
SINCE 1969 INC.
Engineering, Architecture, Surveying, Land Use, Planning

KALISPELL | 406-755-3208
BOZEMAN | 406-586-0707
VANCOUVER | 360-852-8746
info@jackola.com jackola.com

BLACK SHEEP
Mechanical | Electrical | Plumbing | Lighting | Technology
602 W Hemlock | Bozeman, MT 59715
Blacksheep-engineering | 406.312.5774

Construction Documents

MONTANA
ANDREW S. MOORE
No. 38404PE
LICENSED PROFESSIONAL ENGINEER

Reid Hall Renovation

Reid Hall
Bozeman, MT 59717

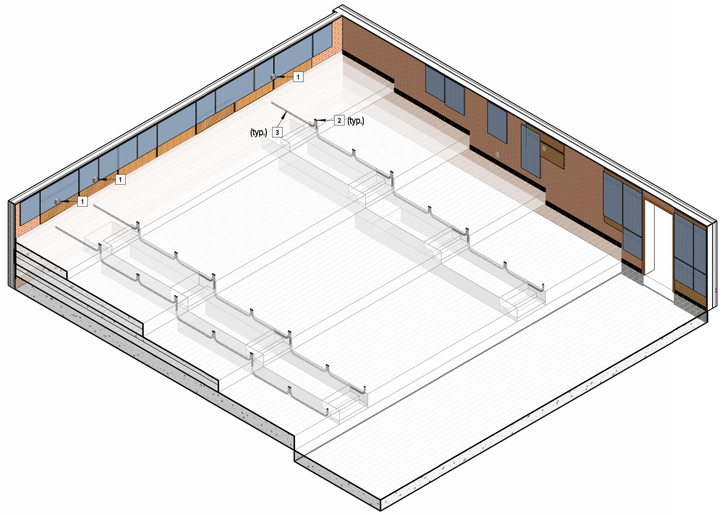
DRAWN: Author CHECKED: Checker
DATE: 12/17/2025
REVISIONS:

MAIN FLOOR ELECTRICAL PLAN

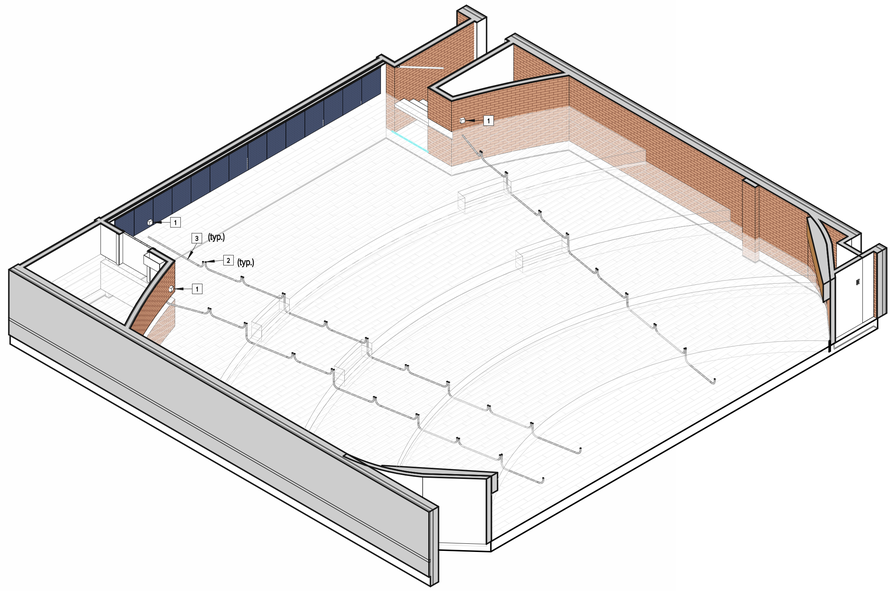
E116

Reference Keynotes

1. Route conduit to recessed junction box in wall at 1'-6" AFF.
2. PVC stub into stationary table leg. Reference furniture drawings for exact dimensions.
3. 3/4" PVC conduit in trench. Cutting and backfill by others.



1 **103 Electrical Conduit Isometric View**



2 **105 Electrical Conduit Isometric View**

JACKOLA ENGINEERING & ARCHITECTURE, PLLC
SINCE 1969
Engineering, Architecture, Surveying, Land Use, Planning

KALISPELL | 406-755-3208
BOZEMAN | 406-586-0707
VANCOUVER | 360-852-8746
info@jackola.com jackola.com

BLACK SHEEP
Mechanical | Electrical | Plumbing | Lighting | Technology
602 W Hemlock | Bozeman, MT 59715
Blacksheep-engineering | 406.312.5714

Construction Documents

MONTANA
ANDREW S. MOORE
No. 38404PE
LICENSED PROFESSIONAL ENGINEER

Reid Hall Renovation

Reid Hall
Bozeman, MT 59717

DRAWN: APH CHECKED: ASM

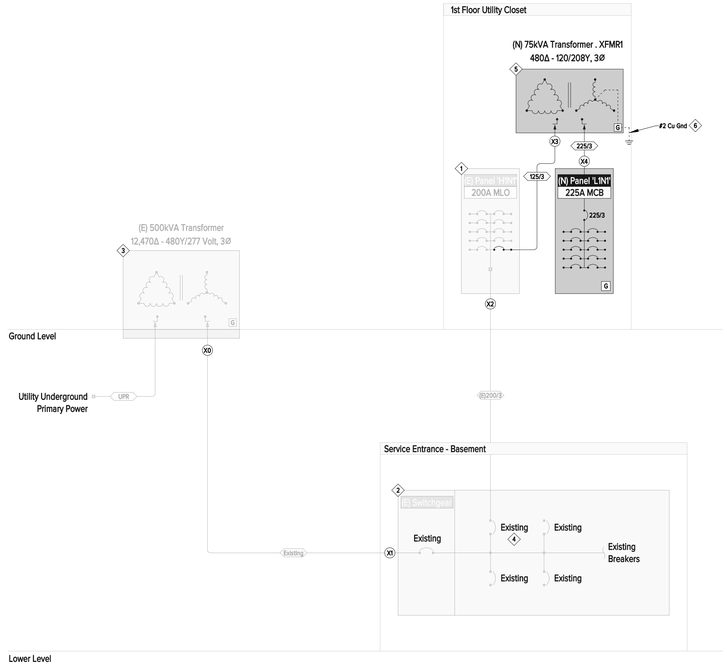
DATE: 12/17/2025

REVISIONS:

103 & 105 ISOMETRIC VIEWS

E501

PROJECT # Project Number



One-Line Diagram Notes

1. EC to conduct 30-day peak demand study per NEC 220.87 to ensure capacity of panel H1N1.
2. It is assumed that the existing switchgear is 2000A minimum and rated 65,000A SCCR. Lengths of short circuit schedule are best engineering judgement and E.C. shall let Engineer of Record know if anything deviates from what is on plan.
3. Transformer size is assumed and max available fault current at utility transformer is assumed to be 51,463 A, taken from Cooper Bussmann's Short Circuit Current Calculations handbook. Available fault current calculations assume:
   - 500 kVA, 1.3% Z utility transformer
   - 200-feet service conductor length or longer
   - (6) 500 kcmil copper service conductors per phase, minimum

   E.C. shall verify these assumptions with the utility. If assumptions are not valid, E.C. shall request updated available fault currents from engineer in writing.
4. Breaker feeding panel H1N1 is assumed to be 200A. E.C. shall verify and let Engineer of Record know if anything deviates in the field.
5. Remove existing transformer and replace with new.
6. Bond secondary neutral conductor to grounding system per NEC 250. Connect to existing grounding connection.

Short Circuit and Feeder Schedule

	Short Circuit Current				Feeder (Cu THWN-2)						Transformer		
Point	Device	Fault at Device	AIC Rating	Voltage	Feeder ID	Phase	Neutral	Ground	Conduit	Length	kVA	Z%	Fault at Primary
X0	Utility	51,463		480V							500	2.5	
X1	(E) Switchgear	37,270	65,000 A	480V	Existing	(5)600kcmil	600kcmil	1/0	3-1/2"C	236'			
X2	H1N1	12,277	14,000 A	480V	(E) 200/3	3/0	3/0	#6	2"C	190'			
X3	(N) XFMR1	8,597		480V	125/3	1/0			1-1/4"C	15'	75	1.75	11,357
X4	(N) L1N1	8,052	10,000 A	208V	225/3	4/0	4/0	#2	2-1/2"C	15'			

JACKOLA ENGINEERING & ARCHITECTURE PC
SINCE 1969
Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

BLACK SHEEP
Mechanical | Electrical | Plumbing | Lighting | Technology
602 W Hemlock | Bozeman, MT 59715
Blacksheep-engineering | 406.312.5774

Construction Documents

MONTANA
ANDREW S. MOORE
No. 38404PE
PROFESSIONAL ENGINEER
LICENSED

Reid Hall Renovation

Reid Hall
Bozeman, MT 59717

DRAWN: Author CHECKED: Checker

DATE: 12/17/2025

1 REVISIONS:

ELECTRICAL ONE-LINE DIAGRAMS

E610

PROJECT # Project Number

Panel 'H1N1'

PANEL	H1N1	VOLTAGE	480/277 Wye	MAIN BUS RATING	200 A	MAIN BUS FEED LOCATION	
LOCATION	CLOSET 130	PHASE	3Ø	MAINS TYPE	MLO	MAIN BUS FEED-THROUGH LOAD	
MOUNTING		WIRE	4	MAIN CIRCUIT BREAKER	200 A	SUB-FEED #1 BREAKER RATING	
FED FROM	(E) Switchgear	ENCLOSURE TYPE		SHORT CIRCUIT AIC RATING	14,000 A	SUB-FEED #2 BREAKER RATING	

Details:

Circuit Breaker Protection Types |
- A = Arc-Fault Protection
- G = Ground-Fault Personnel
- D = Dual Arc-Fault and Ground-Fault Protection
- E = Ground-Fault Equipment
- L = Breaker Lock-Off Device
- S = Furnish with Standard Breaker
- ST = Shunt Trip Device

Notes:

CKT	CIRCUIT DESCRIPTION	WIRE	TYPE	TRIP	POLES	A		B		C		POLES	TRIP	TYPE	WIRE	CIRCUIT DESCRIPTION	CKT
1	(E) Lighting | Classrooms 124, 125, 127	--	--	--	1	--	--					1	--	--	--	(E) Lighting | Classrooms 135 through 142	2
3	(E) Lighting | Classrooms 113 through 122	--	--	--	1			--	--			1	--	--	--	(E) Lighting | Classrooms 128 through 130	4
5	(E) Lighting | Classrooms 131 throught 134	--	--	--	1					--	1729 VA	1	20 A	S	3/4"C, 1#12, #12N, #12G	Lighting | Classrooms 101, 102	6
7	Lighting | Classroom 103	3/4"C, 1#12, #12N, #12G	S	20 A	1	941 VA	--					1	--	--	--	(E) Lighting | Classroom 104	8
9	(E) Lighting | Classroom 108	--	--	--	1			--	--			1	--	--	--	(E) Lighting | Classroom 108	10
11	Lighting | Classroom 105	3/4"C, 1#12, #12N, #12G	S	20 A	1					960 VA							12
13	(E) Lighting | Classroom 108	--	--	--	1	--	--					1	--	--	--	Provision	14
15	Provision	--	--	--	1			--	--			1	--	--	--	Provision	16
17	Provision	--	--	--	1					--	--	1	--	--	--	Provision	18
19	Provision	--	--	--	1	--	--					1	--	--	--	Provision	20
21	Transformer | T2	1-1/4"C, 3-1/0	S	125 A	3			9565 VA	--			3	--	--	--	Provision	22
23	--	--	--	--	--					9020 VA	--	--	--	--	--	--	24
25	--	--	--	--	--	6435 VA	--					--	--	--	--	--	26
27	Provision	--	--	--	1			--	--			1	--	--	--	Provision	28
29	Provision	--	--	--	1					--	--	1	--	--	--	Provision	30
		Total Apparent Power Phase Loads:				**7376 VA**		**9565 VA**		**11710 VA**							
		Total Current Phase Loads:				**27 A**		**36 A**		**43 A**							

CONNECTED LOADS:	
Phase A:	7376 VA
Phase B:	9565 VA
Phase C:	11710 VA
Total:	**28651 VA**

LOAD CLASSIFICATION	CONNECTED LOADS (VA)	DEMAND FACTOR	ESTIMATED DEMAND (VA)
Commercial - Receptacles	20520 VA	74.37%	15260 VA
Commerical - Appliances	4500 VA	75.00%	3375 VA
Lighting	3631 VA	100.00%	3631 VA

PANEL TOTALS	
Total Connected Load:	28651 VA
Total Estimated Demand:	22266 VA
Total Connected Current:	34 A
Total Estimated Demand Current:	27 A

Panel '(N) L1N1'

PANEL	(N) L1N1	VOLTAGE	120/208 Wye	MAIN BUS RATING	225 A	MAIN BUS FEED LOCATION	
LOCATION	CLOSET 130	PHASE	3Ø	MAINS TYPE	MCB	MAIN BUS FEED-THROUGH LOAD	
MOUNTING	Recessed	WIRE	4	MAIN CIRCUIT BREAKER	225 A	SUB-FEED #1 BREAKER RATING	
FED FROM	(N) XFMR1	ENCLOSURE TYPE	NEMA 1	SHORT CIRCUIT AIC RATING	10,000 A	SUB-FEED #2 BREAKER RATING	

Details:

Circuit Breaker Protection Types |
- A = Arc-Fault Protection
- G = Ground-Fault Personnel
- D = Dual Arc-Fault and Ground-Fault Protection
- E = Ground-Fault Equipment
- L = Breaker Lock-Off Device
- S = Furnish with Standard Breaker
- ST = Shunt Trip Device

Notes:

1. All conductors to be copper unless otherwise noted. Conductors shall be upsized for all runs over 100 feet to keep maximum allowable voltage drop at 3%.
2. Where panel schedule and plans indicate GFCI protection for the same circuit, E.C. shall determine whether to install a GFCI receptacle / device or a GFCI circuit breaker but not both.
3. Reference Mechanical Equipment Connection Schedule and manufacturer instructions for electrical installation requirements.
4. If mechanical equipment is within sight [less than 50-feet] of the load center, a molded case circuit breaker may serve as the disconnecting means. The circuit breaker must be capable of being locked in the open position.
5. Provide door-in-door hinged cover per MSU standards.

CKT	CIRCUIT DESCRIPTION	WIRE	TYPE	TRIP	POLES	A		B		C		POLES	TRIP	TYPE	WIRE	CIRCUIT DESCRIPTION	CKT
1	(E) Lighting | Corridor B	--	--	--	1	--	--					1	--	--	--	(E) Lighting | Corridor A	2
3	(E) Lighting | West End Corridor	--	--	--	1			--	--			1	--	--	--	(E) Show case and pipe chase	4
5	(E) Lighting | Lobby A & Stairwell	--	--	--	1					--	--	1	--	--	--	(E) Lighting | Stairway C	6
7	(E) Lighting | Corridor C	--	--	--	1	--	--					1	--	--	--	(E) Lighting | Exterior East & South	8
9	Provision	--	--	--	1			--	--			1	--	--	--	(E) Lighting | Room 108	10
11	(E) Lighting | Room 103, 104	--	--	--	1					--	--	1	--	--	--	(E) Rcpts | Rooms 131, 132	12
13	(E) Rcpts | Rooms 133, 134, 135	--	--	--	1	--	--					1	--	--	--	(E) Rcpts | Rooms 136, 137, 138, 138A	14
15	(E) Rcpts | Rooms 138B, 139	--	--	--	1			--	--			1	--	--	--	(E) Rcpts | Rooms 140, 141, 142	16
17	(E) Rcpts | Rooms 125, 126, 127 North	--	--	--	1					--	--	1	--	--	--	(E) Rcpts | Room 124 North	18
19	(E) Rcpts | Rooms 125, 126, 127 South	--	--	--	1	--	--					1	--	--	--	(E) Rcpts | Room 124 South	20
21	(E) Rcpts | Rooms 112, 113	--	--	--	1			--	--			1	--	--	--	(E) Rcpts | Rooms 114, 115, 116	22
23	(E) Rcpts | Rooms 117, 118, 119	--	--	--	1					--	--	1	--	--	--	(E) Rcpts | Rooms 120, 121, 122	24
25	(E) Rcpts | Room 123, West Corridor	--	--	--	1	--	--					1	--	--	--	(E) Rcpts | Room 128, Corridor B	26
27	(E) Rcpts | Room 129, Corridor A	--	--	--	1			--	--			1	--	--	--	(E) Rcpts | Rooms 108, 109, 110, 111	28
29	(E) Rcpts | Rooms 108, 109, 110	--	--	--	1					--	1440 VA	1	20 A	S	3/4"C, 1#12, #12N, #12G	(E) Rcpts | Rooms 101, 102	30
31	(E) Rcpts | Room 102, 103	3/4"C, 1#12, #12N, #12G	S	20 A	1	900 VA	360 VA					1	20 A	S	3/4"C, 1#12, #12N, #12G	(E) Rcpts | Rooms 103, 104 East Wall	32
33	(E) Rcpts | Room 105	3/4"C, 1#12, #12N, #12G	S	20 A	1			540 VA	--			1	--	--	--	(E) Rcpts | Exterior South	34
35	(E) Rcpts | Exterior East	--	--	--	1					--	--	1	--	--	--	(E) Rcpts | Exterior North	36
37	(E) Rcpts | Exterior West	--	--	--	1	--	--					1	--	--	--	(E) West End Heaters	38
39	(E) Rcpts | Rooms 129	--	--	--	1			--	--			1	--	--	--	(E) Illegible	40
41	(E) Lighting | Lobby A	--	--	--	1					--	0 VA	1	20 A	--	--	Spare 'S'	42
43	Rcpts | Room 101	3/4"C, 1#12, #12N, #12G	S	20 A	1	360 VA	1260 VA					1	20 A	S	3/4"C, 1#12, #12N, #12G	Rcpts | Room 101	44
45	Overhead Projectors | Room 101	3/4"C, 1#12, #12N, #12G	S	20 A	1			1000 VA	1260 VA			1	20 A		3/4"C, 1#12, #12N, #12G	Rcpts | Room 102	46
47	Spare 'S'	--	--	20 A	1					0 VA	360 VA	1	20 A	S	3/4"C, 1#12, #12N, #12G	Rcpts | Room 102	48
49	Spare 'S'	--	--	20 A	1	0 VA	1000 VA					1	20 A	S	3/4"C, 1#12, #12N, #12G	Overhead Projectors | Room 102	50
51	Spare 'S'	--	--	20 A	1			0 VA	945 VA			2	20 A	S	3/4"C, 2#12, #12N, #12G	Desk Power | Room 105	52
53	Spare 'S'	--	--	20 A	1					0 VA	945 VA	--	--	--	--	--	54
55	Rcpts | Room 126	3/4"C, 1#12, #12N, #12G	S	20 A	1	1440 VA	945 VA					2	20 A	S	3/4"C, 2#12, #12N, #12G	Desk Power | Room 105	56
57	Overhead Projectors | Room 103	3/4"C, 1#12, #12N, #12G	S	20 A	1			1000 VA	945 VA			--	--	--	--	--	58
59	Desk Power | Room 103	3/4"C, 2#12, #12N, #12G	S	20 A	2					945 VA	855 VA	2	20 A	S	3/4"C, 2#12, #12N, #12G	Desk Power | Room 105	60
61	--	--	--	--	--	945 VA	855 VA					--	--	--	--	--	62
63	Desk Power | Room 103	3/4"C, 2#12, #12N, #12G	S	20 A	2			945 VA	945 VA			2	20 A	S	3/4"C, 2#12, #12N, #12G	Desk Power | Room 105	64
65	--	--	--	--	--					945 VA	945 VA	--	--	--	--	--	66
67	Overhead Projectors | Room 126	3/4"C, 1#12, #12N, #12G	S	20 A	1	1000 VA	500 VA					1	20 A	S	3/4"C, 1#12, #12N, #12G	Overhead Projector | Room 105	68
69	Rcpts | Room 126	3/4"C, 1#12, #12N, #12G		20 A	1			1440 VA	0 VA			1	20 A	--	--	Spare 'S'	70
71	Spare 'S'	--	--	20 A	1					0 VA	0 VA	1	20 A	--	--	Spare 'S'	72
		Total Apparent Power Phase Loads:				**9565 VA**		**9020 VA**		**6435 VA**							
		Total Current Phase Loads:				**83 A**		**78 A**		**54 A**							

CONNECTED LOADS:	
Phase A:	9565 VA
Phase B:	9020 VA
Phase C:	6435 VA
Total:	**25020 VA**

LOAD CLASSIFICATION	CONNECTED LOADS (VA)	DEMAND FACTOR	ESTIMATED DEMAND (VA)
Commercial - Receptacles	20520 VA	74.37%	15260 VA
Commerical - Appliances	4500 VA	75.00%	3375 VA

PANEL TOTALS	
Total Connected Load:	25020 VA
Total Estimated Demand:	18635 VA
Total Connected Current:	69 A
Total Estimated Demand Current:	52 A

PROJECT # Project Number

JACKOLA ENGINEERING & ARCHITECTURE PLLC
SINCE 1969
Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL | 406-755-3208 | BOZEMAN | 406-586-0707 | VANCOUVER | 360-852-8746
info@jackola.com | jackola.com

BLACK SHEEP
Mechanical | Electrical | Plumbing | Lighting | Technology
602 W Hemlock | Bozeman, MT 59715
Blacksheep-engineering | 406.312.5774

Construction Documents

MONTANA
ANDREW S. MOORE
No. 38404PE
LICENSED PROFESSIONAL ENGINEER

Reid Hall Renovation
Reid Hall
Bozeman, MT 59717

DRAWN: Author CHECKED: Checker

DATE: 12/17/2025

REVISIONS:

ELECTRICAL PANEL SCHEDULES

E620

1 **101/102 Lighting Plan**
1/4" = 1'-0"

Reference Keynotes

1. Remote test switch at accessible location. Battery pack located above lay-in ceiling.

JACKOLA ENGINEERING & ARCHITECTURE PLLC
SINCE 1969
Engineering, Architecture, Surveying, Land Use Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

BLACK SHEEP
Mechanical | Electrical | Plumbing | Lighting | Technology
602 W Hemlock | Bozeman, MT 59715
Blacksheep-engineering | 406.312.5714

Construction Documents

MONTANA
ANDREW S. MOORE
No. 38404PE
PROFESSIONAL ENGINEER
LICENSED

Reid Hall Renovation

Reid Hall
Bozeman, MT 59717

DRAWN: APH CHECKED: ASM

DATE: 12/17/2025

REVISIONS:

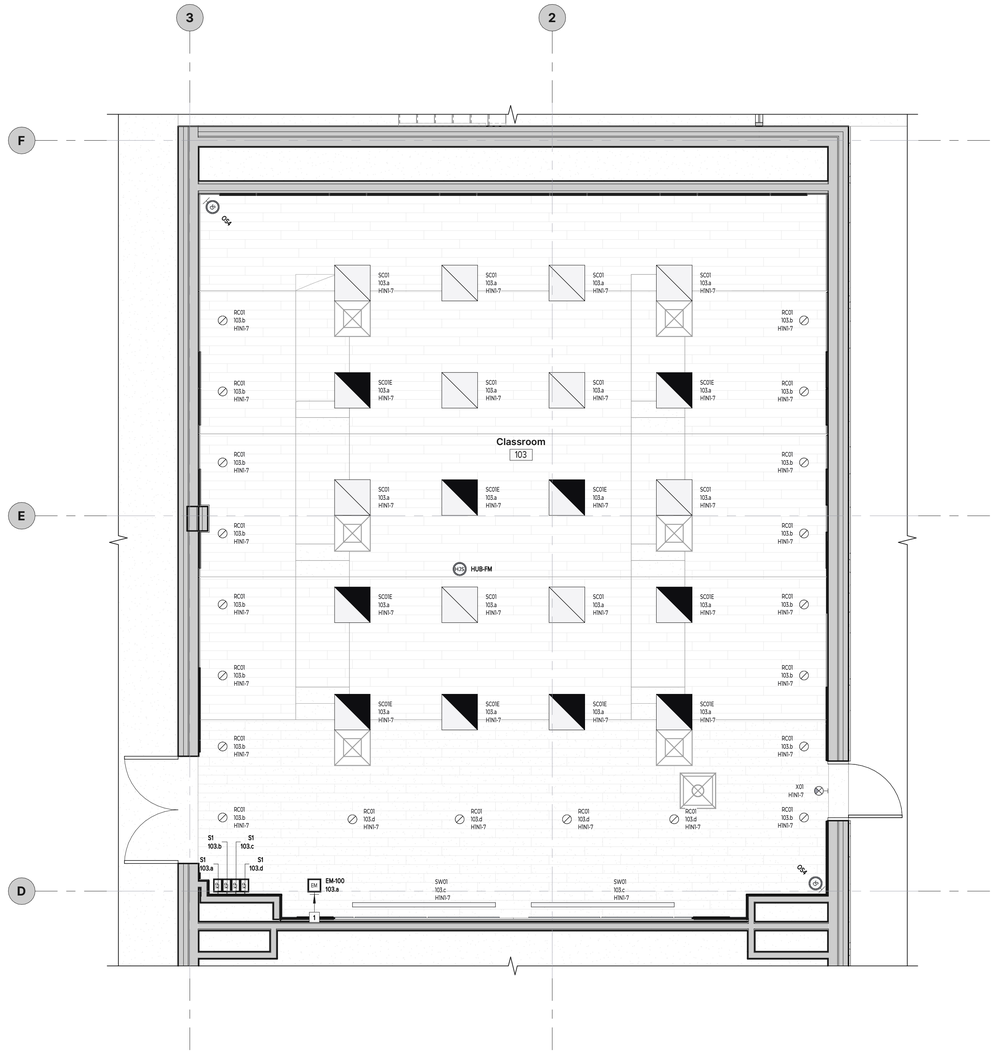
101/102 LIGHTING PLAN

EL111

PROJECT # Project Number

Reference Keynotes

1. Remote test switch at accessible location. Battery pack located above lay-in ceiling.



1 103 Lighting Plan
1/4" = 1'-0"

KALISPELL | 406-755-3208
BOZEMAN | 406-586-0707
VANCOUVER | 360-852-8746
info@jackola.com jackola.com

BLACK SHEEP
Mechanical | Electrical | Plumbing | Lighting | Technology
602 W Hemlock | Bozeman, MT 59715
Blacksheep-engineering | 406.312.5774

Construction Documents

MONTANA
ANDREW S. MOORE
No. 38404PE
PROFESSIONAL LICENSED ENGINEER

Reid Hall Renovation

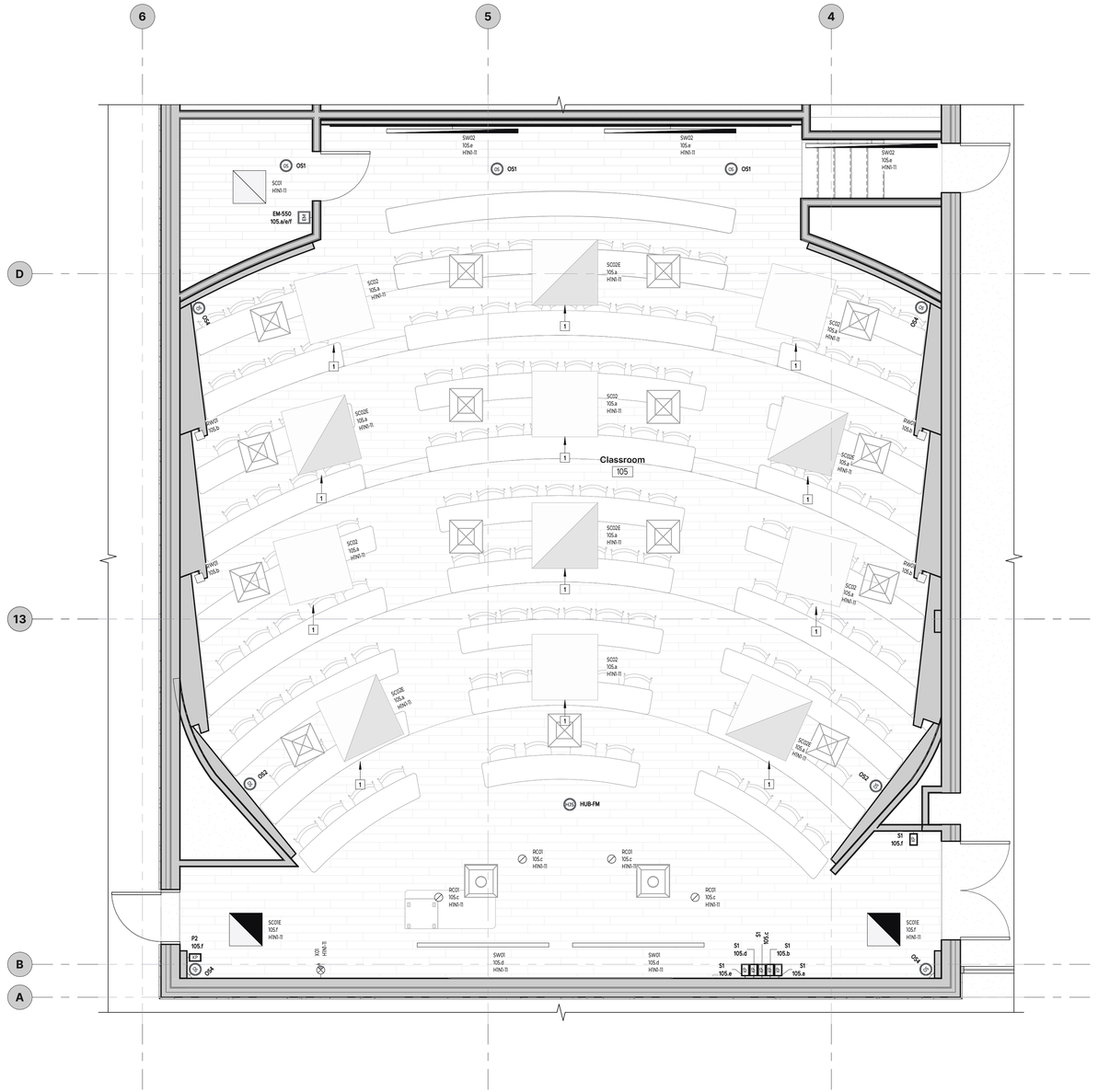
Reid Hall
Bozeman, MT 59717

DRAWN: APH CHECKED: ASM
DATE: 12/17/2025
REVISIONS:

103 LIGHTING PLAN

EL112

PROJECT # Project Number



1 **105 Lighting Plan**
1/4" = 1'-0"

Reference Keynotes

1. EC to remove and bypass existing ballast. Dispose of ballast in accordance with state environmental requirements. Refer to luminaire schedule on EL602 for lamp specifications.

JACKOLA ENGR. & ARCH., P.C.
SINCE 1969
Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL | 406-755-3208
BOZEMAN | 406-586-0107
VANCOUVER | 360-852-8746
info@jackola.com jackola.com

BLACK SHEEP
Mechanical | Electrical | Plumbing | Lighting | Technology
602 W Hemlock | Bozeman, MT 59715
Blacksheep-engineering | 406.312.5774

Construction Documents

MONTANA
ANDREW S. MOORE
No. 38404PE
PROFESSIONAL LICENSED ENGINEER

Reid Hall Renovation

Reid Hall
Bozeman, MT 59717

DRAWN: APH CHECKED: ASM

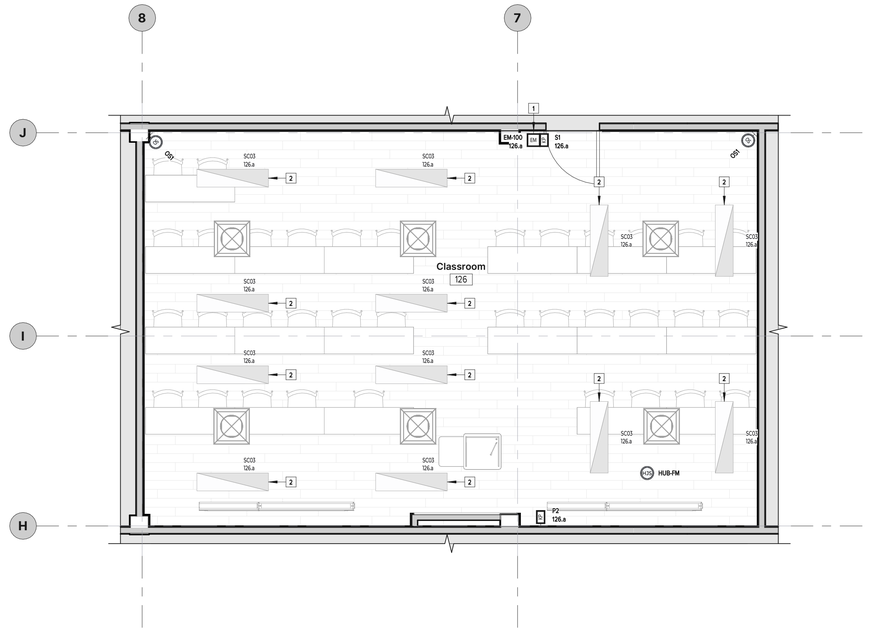
DATE: 12/17/2025

REVISIONS:

105 LIGHTING PLAN

EL113

PROJECT # Project Number



1 **126 Lighting Plan**
1/4" = 1'-0"

Reference Keynotes

1. Remote test switch at accessible location. Battery pack located above lay-in ceiling.

2. EC to remove and bypass existing ballast. Dispose of ballast in accordance with state environmental requirements. Refer to luminaire schedule on EL602 for lamp specifications.

JACKOLA ENGR. & ARCH., P.C.
SINCE 1969
Engineering, Architecture, Surveying, Land Use, Planning

KALISPELL | 406-755-3208
BOZEMAN | 406-586-0707
VANCOUVER | 360-852-8746
info@jackola.com jackola.com

BLACK SHEEP
Mechanical | Electrical | Plumbing | Lighting | Technology
602 W Hemlock | Bozeman, MT 59715
Blacksheep-engineering | 406.312.5774

Construction Documents

MONTANA
ANDREW S. MOORE
No. 38404PE
LICENSED PROFESSIONAL ENGINEER

Reid Hall Renovation

Reid Hall
Bozeman, MT 59717

DRAWN: APH CHECKED: ASM

DATE: 12/17/2025

REVISIONS:

126 LIGHTING PLAN

EL114

PROJECT # Project Number

Luminaires

Type	Description	Manufacturer	Model	CCT	CRI	Dimming	Load	Lumens	Notes
RC01	4" Architectural Koto Downlight	ELCO Lighting	E4LK78ICAD ELK2435D-W ELK4129W	3500K	95+	0-10V	19 VA	2181 lm	
RW01	Cove Light w/ Asymmetric Louvre	Moda Light	MMGI-H-S-0-35H-4-310	3500K	95+	0-10V	37 VA	2505 lm	
SC01	2' x 2' Lay-In Panel	RAB	EZP2x240W/D10	3500K	84	0-10V	25 VA	3140 lm	3, 4
SC01E	2' x 2' Lay-In Panel	RAB	EZP2x240W/D10	3500K	84	0-10V	25 VA	3140 lm	3, 4, 5
SC02	Existing 4' x 4' Panel	N/A	N/A	3500K	83	0-10V	42 VA	6600 lm	1, 2
SC02E	Existing 4' x 4' Panel	N/A	N/A	3500K	83	0-10V	42 VA	6600 lm	1, 2, 5
SC03	Existing 1' x 4' Panel	N/A	N/A	3500K	84	0-10V	25 VA	3140 lm	1, 2
SW01	Asymmetric Wall Wash	Prudential Lighting	MWR-PRO-LED35-90-HO-8'-TMW-SC-UNV-SUR-X3-X3-DM01	3500K	90	0-10V	30 VA	3560 lm	
SW02	Wall Mounted Linear Light	Lumenwerx	SQUW-DI-MPL-WH-WAI2-SW-90CRI-500LMF-500LMF-35K-8FT-UNV-D1-1C-DMB-W	3500K	90	0-10V	81 VA	8000 lm	5
X01	Exit Sign	Evenlite	SOVII-EM-G-1C-BA-SW-SU-[XX]	--	--	--	3 VA	0 lm	6

Notes:

1. EC to remove fluorescent ballast and rewire with 277V, 0-10V dimming circuit.
2. EC to furnish and install Type B T8 LED lamp; KT-LED10.5T8-48GC-8XX-D-VDIM, or equal.
3. EC to set adjustable output to 30W during installation.
4. EC to set adjustable color temperature to 3500K during installation.
5. Connect emergency lighting to mini inverter per manufacturer's installation instructions.
6. EC to order exit signs with arrows as indicated on floor plans. See floor plans.

Lighting Control Devices

Type	Description	Manufacturer	Model	Notes
EM-100	Mini Inverter - Single Zone	Evenlite	MIP-100-MINV-ACCY-TSP	6
EM-550	Mini Inverter - Multiple Zones	Evenlite	PWII-55-LC-FD	6
HUB-FM	Vive Wireless Hub without BACnet, Up to 75 Devices, Flush Mount.	Lutron	HJS-0-FM	1, 2, 3, 4
OS1	Radio Power Saver Wireless Occupancy Sensor - Ceiling Mounted	Lutron	LRF2-OCR2B-P-WH	1, 2, 3, 4, 5
OS4	Radio Power Saver Wireless Occupancy Sensor - Corner Mounted	Lutron	LRF2-OKLB-P-WH	1, 2, 3, 4, 5
OS2	Radio Power Saver Wireless Occupancy Sensor - Wall Mounted	Lutron	LRF2-OWLB-P-WH	1, 2, 3, 4, 5
P2	Pico Remote - 2-Button with Raise/Lower	Lutron	N/A	1, 2, 3, 4
S1	Maestro Wireless 0-10V Dimming Switch	Lutron	N/A	1, 2, 3, 4
4B	Vive 4-Button Zone Control	Lutron	PJ2-4B-GWH-L01	1, 2, 3, 4

Notes:

1. EC to install a complete working system.
2. EC to provide startup, commissioning, and training services for lighting control system.
3. Refer to specifications for additional control system requirements.
4. EC to install Vive lighting control equipment according to plans to ensure the best connectivity to wireless control devices.
5. Occupancy sensors to be installed in locations according to plans. They are to be installed at levels that allow the sensor to operate properly and are also unobstructed by building infrastructure and luminaires.
6. Connect emergency lighting to mini inverter per manufacturer's installation instructions.

JACKOLA ENGINEERING & ARCHITECTURE PC
SINCE 1969
Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

BLACK SHEEP
Mechanical | Electrical | Plumbing | Lighting | Technology
602 W Hemlock | Bozeman, MT 59715
Blacksheep-engineering | 406.312.5774

Construction Documents

MONTANA
ANDREW S. MOORE
No. 38404PE
REGISTERED PROFESSIONAL LICENSED ENGINEER

Reid Hall Renovation

Reid Hall
Bozeman, MT 59717

DRAWN: APH CHECKED: ASM

DATE: 12/17/2025

REVISIONS:

LUMINAIRES & LIGHTING EQUIPMENT SCHEDULES

EL620

PROJECT # Project Number

Conduit Sizing

Conduit Size	Maximum Number of Cables
1-1/4"	(8) Cat6A
1-1/2"	(11) Cat6A
2"	(19) Cat6A
2-1/2"	(21) Cat6A
3"	(55) Cat6A
4"	(92) Cat6A

J-Hook Sizing

B-Line Series J-Hooks		Maximum Number of Cables
Part Number	Size	Commscope Cable UN884019304/10 (.285" Diam.)
BCH21	1-5/16"	(12) Cat6A
BCH32	2"	(20) Cat6A
BCH64	4"	(92) Cat6A

Cabletray Sizing

Flextray Series		Maximum Number of Cables
Part Number	Size	Commscope Cable UN884019304/10 (.285" Diam.)
FT4X4	4" x 4"	(100) Cat6A
FT4X8	4" x 8"	(200) Cat6A
FT4X12	4" x 12"	(300) Cat6A
FT4X18	4" x 18"	(451) Cat6A
FT4X24	4" x 24"	(601) Cat6A

Cabletray Load Capacity

Flextray Series		Support Span / Load Capacity (Lbs/Ft Max.)			
Part Number	Size	5'-0"	6'-0"	7'-0"	8'-0"
FT4X4	4" x 4"	58	49	42	36
FT4X8	4" x 8"	94	78	61	47
FT4X12	4" x 12"	119	83	61	47
FT4X18	4" x 18"	119	83	61	47
FT4X24	4" x 24"	128	89	65	50

Technology Responsibility Matrix

AV = University Audio/Video Department
UIT = University IT Department
GC = General Contractor or Subcontractor

Equipment	Description	Qty.	Furnished	Installed
Audio/Visual and Control Equipment, Mounts and Acessories				
Audio Technica TBD	Wireless Mic Room PA	1	AV	AV
Epson L530U	PowerLite Series Full HD WUXGA Long Throw Laser Projector	4	AV	AV
Epson L630U	PowerLite Series Full HD WUXGA Long Throw Laser Projector	2	AV	AV
Epson L690U	PowerLite Series Full HD WUXGA Long Throw Laser Projector	3	AV	AV
Existing Projector Extension	Existing Projector Extension	1	AV	AV
Existing Projector Mount	Existing Projector Mount	1	AV	AV
Extron 42-338-02	Long Throw Column Array Speaker, 8 Ohm, Black	4	AV	AV
Extron 60-849-01	2-Channel Low Impedance Amplifier 60/100 Watts per Channel	2	AV	AV
Extron 60-1081-01	Six Input HDCP-Compliant Scaling Presentation Switcher	4	AV	AV
Extron 60-1271-12	DTP Transmitter for HDMI	3	AV	AV
Extron 60-1271-13	DTP Receiver for HDMI	9	AV	AV
Extron 60-1449-01	Mono 70/100V Amplifier, 60W	3	AV	AV
Extron 60-1470-02	MediaLink Plus Controller, Black	4	AV	AV
Extron 60-1491-12	DTP Transmitter for HDMI with Input Loop-Out	3	AV	AV
Extron 60-1515-01	8x4 Seamless 4K Scaling Presentation Matrix Switcher	1	AV	AV
Extron 60-1562-12	7" Tabletop TouchLink Pro Touchpanel, Black	1	AV	AV
Extron FF 220T	Full-Range Flat Field Speakers w/ Low Profile Enclosure, 70/100V Transformer	6	AV	AV
WolfVision VZ-3neo	Visualizer and Document Camera	4	AV	AV
WolfVision VZ-8.UHD	Visualizer and Document Camera	1	AV	AV
Cabling - Classroom AV; Category, Speaker, Line, Video, Etc.				
AV Cabling	AV System Cabling from Device to Device	1	AV	AV
Cabling - IT; Wiring to Telecommunications Rooms				
Typical UIT Cabling	University IT Category Cabling to TR	1	UIT	UIT
Cabling - IT; Wiring within Telecommunication Rooms; Category Cabling, Patch Cables, Power Cables, Etc.				
TR Cabling	Interconnect Cabling within TR	1	UIT	UIT
Instructor's Lecterns with Integrated AV Equipment Storage				
Lecturns	Lecturns w/ Integrated AV Equipement Storage	1	AV	AV
Network Equipment; Wireless Access Points, Network Switches and Licenses				
Typical Existing Access Point	Existing Wireless Access Point	15	UIT	UIT
Pathway Equipment; Cable Tray, J-Hooks, and Supporting Hardware				
Cabling Pathways	University IT and System Cabling Pathway Equipment	1	UIT	GC
Cooper B-Line FT4X4	Straight Flex Tray Section, 4" Deep, 4" Wide	6	GC	GC
Cooper B-Line FT4X4 Tee	4" Deep, 4" Wide Horizontal Tee Created with One FT4X4 and Three Washer SPL Kits	1	GC	GC
Legrand 2300BAC	Wiremold 2300 Series Raceway, Ivory	6	GC	GC
Legrand 2348S/51	Wiremold Single Gang Shallow Device Box	4	GC	GC
Typical 4" Sleeve	Typical 4" Conduit Sleeve for Penetrations	2	GC	GC
Projection Screens				
Da-Lite 70292	Model C with CSR, 109" Diagonal (16:10), Matte White	2	AV	GC
Da-Lite 70296	Model C with CSR, 137" Diagonal (16:10), Matte White	4	AV	GC
Da-Lite 70362	Da-Snap Series 137" Diagonal Fixed Screen with Da-Mat Material	2	AV	GC
Da-Lite 70373	Da-Snap Series 189" Diagonal Fixed Screen with Da-Mat Material	1	AV	GC
Rough-In Conduit, Junction Boxes, Mud Rings, Floor Boxes, Display Back Boxes and Supporting Hardware				
2" Conduit Sleeve	2" Conduit Sleeve for Penetrations	4	GC	GC
Chief SYSAUW	Suspended Ceiling Projector System, White	8	AV	GC
Existing Projector Ceiling Plate	Existing Projector Ceiling Plate	1	AV	GC
FSR PWB-323-CV	Project Wall Box Decorative Cover	5	AV	AV
FSR PWB-323-TRK	3" Depth Large Open Style Wall Box w/ Trim Ring	5	AV	GC
Raco 260	4-11/16" Square Box, Large Capacity, Welded, 3-1/4" Dpeth w/ 12 Knockouts	6	GC	GC
Raco 837	4-11/16" Square Single Device Cover, 1/2" Raised	1	GC	GC
Raco 843	4-11/16" Square Single Device Cover, 5/8" Raised	4	GC	GC
Typical EMT 1-1/4"	Typical 1-1/4" EMT for UIT & AV Cabling	1	GC	GC
Typical EMT 90° Bend	Typical 90° Bend for 1-1/4" UIT EMT	14	GC	GC
Trim - AV; Faceplates, Quickports and Accessories				
Typical 1G Passthrough Plate	Single Gang Passthrough Plate for AV System Cabling	6	AV	AV
Trim - IT; Faceplates, Quickports and Accessories				
CommScope FP-LBL-2P-448	Faceplate Kit, Labeled, 1-Gang, 2-Port, Light Almond	1	UIT	UIT
CommScope USL10G-L-AL	SL Series Modular Jack, RJ45, Cat6A Unshielded, Light Almond	2	UIT	UIT
Commscope 1-1933674-3	6-Port Surface Mount Module	5	UIT	UIT
Commscope SMB-2P-266	2-Port Universal Surface Mount Jack for Lutron VIVE Hub Locations	3	UIT	UIT
Commscope SMB-2P-266	2-Port Universal Surface Mount Jack for PoE Clocks	6	UIT	UIT
Commscope SMB-2P-266	2-Port Universal Surface Mount Jack for Projector Locations	9	UIT	UIT
Commscope SMB-2P-266	2-Port Universal Surface Mount Jack for Wireless Access Points	15	UIT	UIT
Typical 2-Port Data Jack	2-Port Data Jack Wiring and Trim Plate Location	1	UIT	UIT
University Informational Systems				
American Time PE64BGPD904	15" PoE Round Surface Clock, Black	6	UIT	UIT

JACKOLA ENGINEERING & ARCHITECTURE, PLLC
SINCE 1969
Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

BLACK SHEEP
Mechanical | Electrical | Plumbing | Lighting | Technology
602 W Hemlock | Bozeman, MT 59715
Blacksheep-engineering | 406.312.5774

Construction Documents

MONTANA
ANDREW S. MOORE
No. 38404PE
LICENSED PROFESSIONAL ENGINEER

Reid Hall Renovation

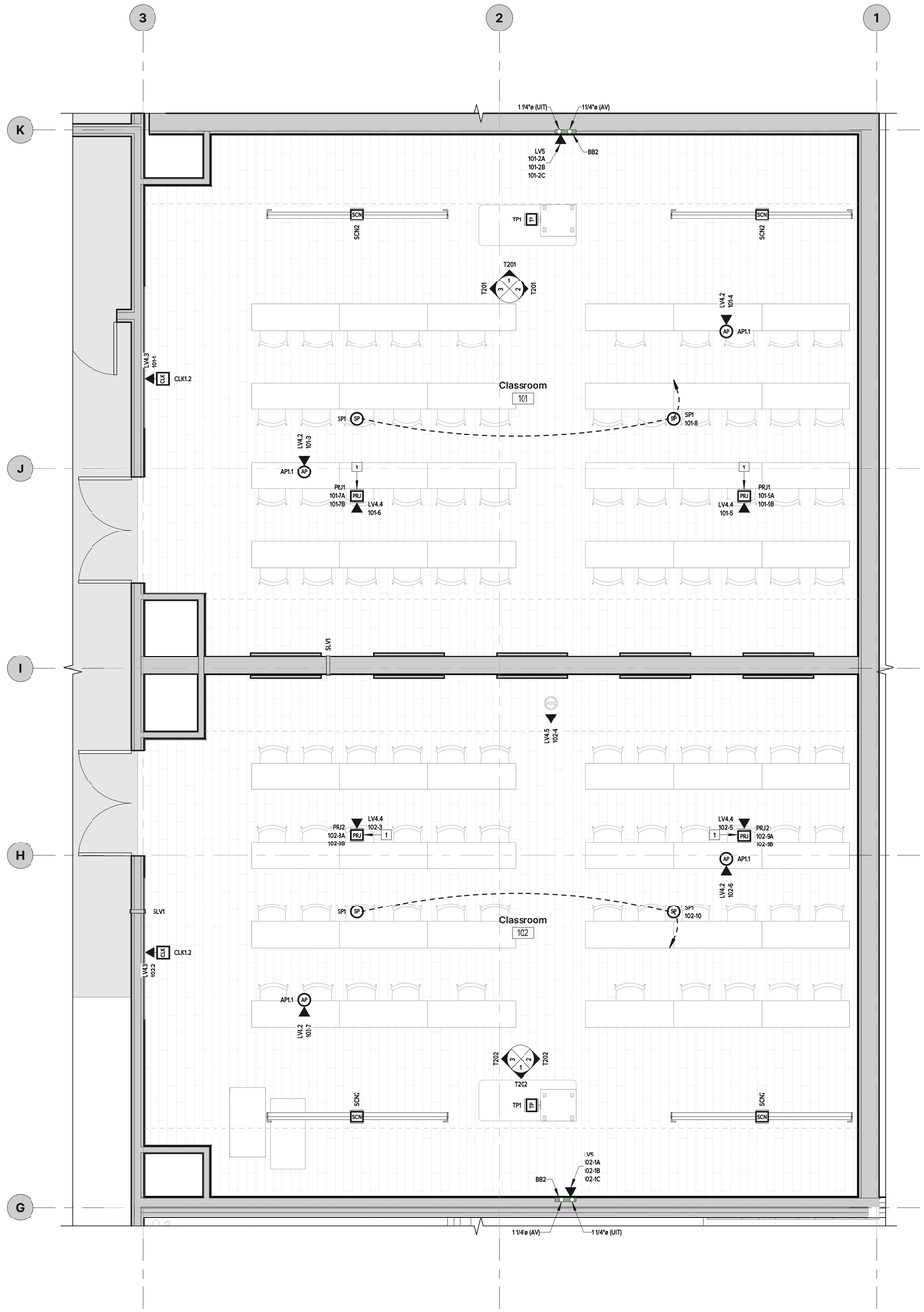
Reid Hall
Bozeman, MT 59717

DRAWN: Author CHECKED: Checker
DATE: 12/17/2025
REVISIONS:

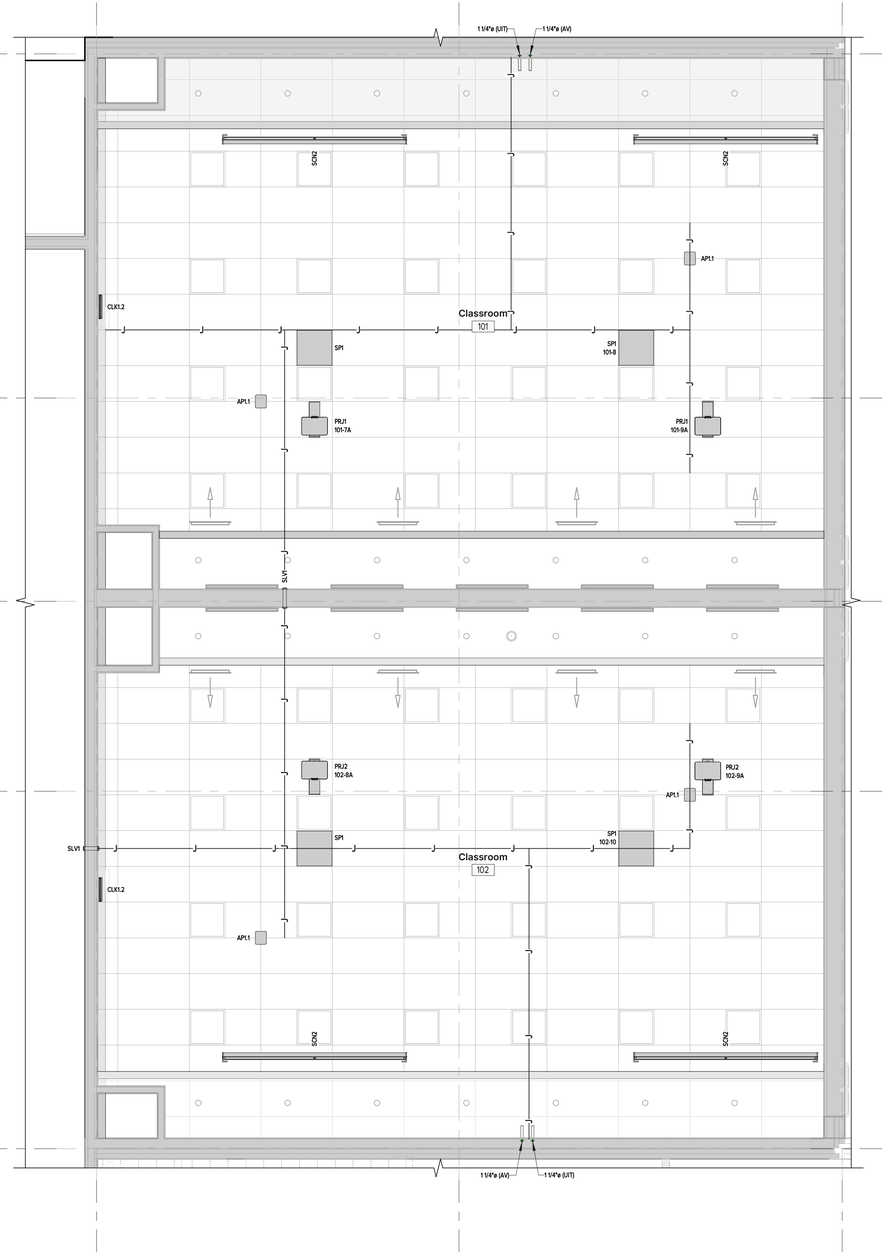
TECHNOLOGY INFORMATION

T001

PROJECT # Project Number



1 **101/102 Technology Plan**
1/4" = 1'-0"



2 **101/102 Technology Ceiling Plan**
1/4" = 1'-0"

Sheet Notes

1. Final cabling pathways to be determined on site.
2. All equipment locations shall be finalized by MSU AV and UIT departments before wired and installed.

Reference Keynotes

1. 13'-2 3/16" to 21'-4 1/8" projector throw distance range for 137" diagonal screen.

JACKOLA ENGINEERING & ARCHITECTURE PLLC
SINCE 1969
Engineering, Architecture, Surveying, Land Use Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

BLACK SHEEP
Mechanical | Electrical | Plumbing | Lighting | Technology
602 W Hemlock | Bozeman, MT 59715
Blacksheep-engineering | 406.312.5774

Construction Documents

MONTANA
ANDREW S. MOORE
No. 38404PE
LICENSED PROFESSIONAL ENGINEER

Reid Hall Renovation

Reid Hall
Bozeman, MT 59717

DRAWN: Author CHECKED: Checker

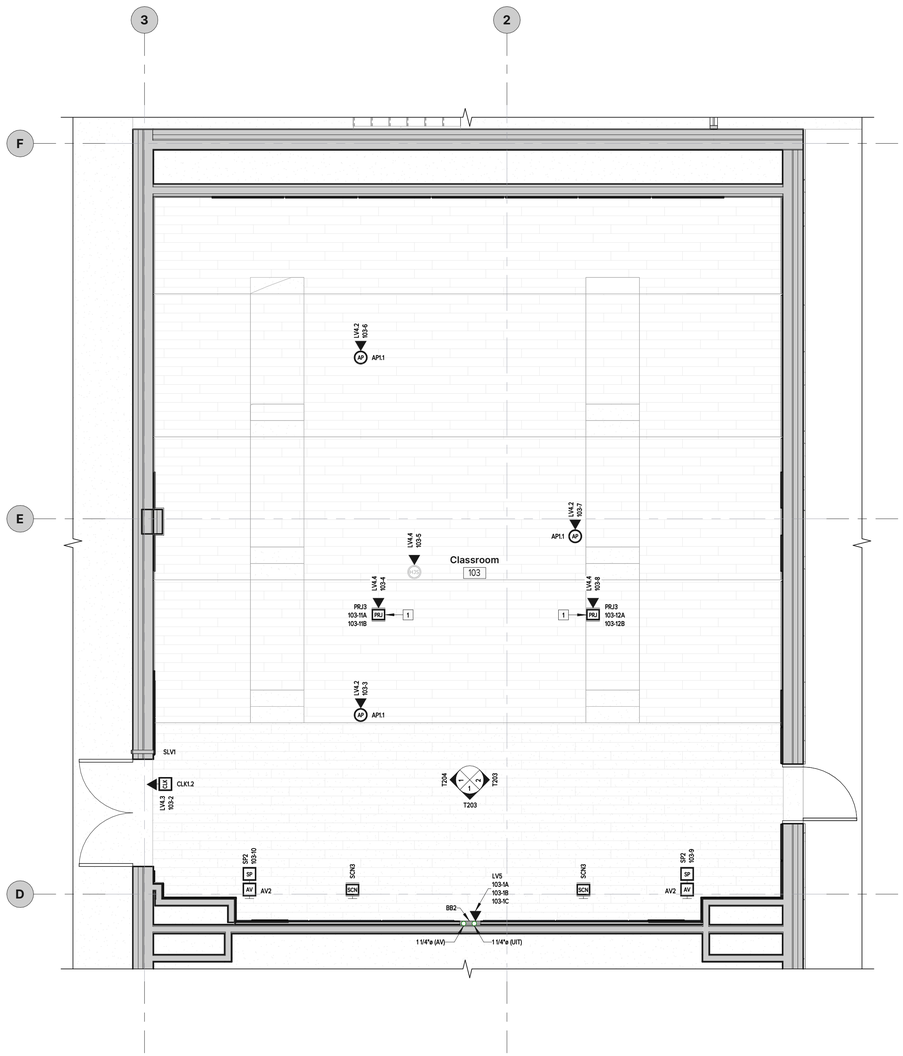
DATE: 12/17/2025

REVISIONS:

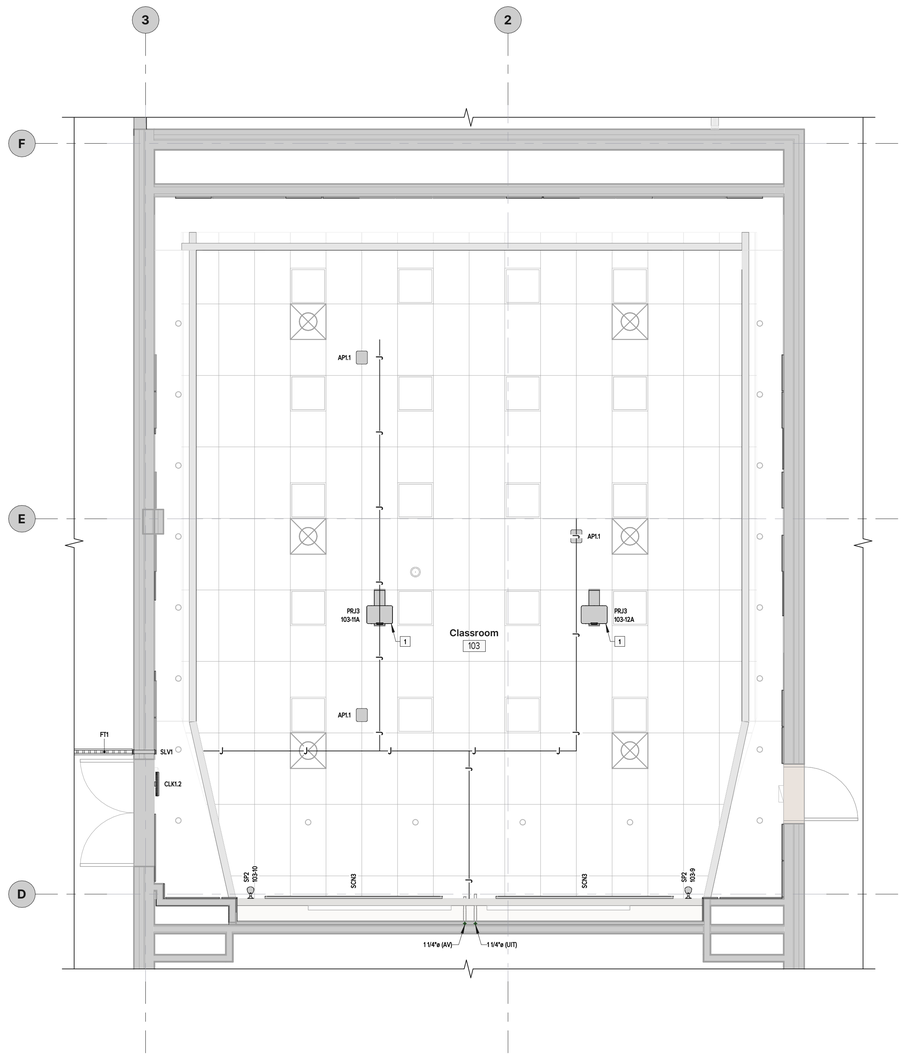
101/102 TECHNOLOGY PLANS

T111

PROJECT # Project Number



1 **103 Technology Plan**
1/4" = 1'-0"



2 **103 Technology Ceiling Plan**
1/4" = 1'-0"

Sheet Notes

1. Final cabling pathways to be determined on site.
2. All equipment locations shall be finalized by MSU AV and UIT departments before wired and installed.

Reference Keynotes

1. 13'-2 3/16" to 21'-4 1/8" projector throw distance range for 137" diagonal screen.

JACKOLA ENGINEERING & ARCHITECTURE, P.C. — SINCE 1969 — Engineering, Architecture, Surveying, Land Use, Planning

KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

BLACK SHEEP
Mechanical | Electrical | Plumbing | Lighting | Technology
602 W Hemlock | Bozeman, MT 59715
Blacksheep-engineering | 406.312.5714

Construction Documents

MONTANA — ANDREW S. MOORE — No. 38404PE — LICENSED PROFESSIONAL ENGINEER

Reid Hall Renovation

Reid Hall
Bozeman, MT 59717

DRAWN: Author CHECKED: Checker

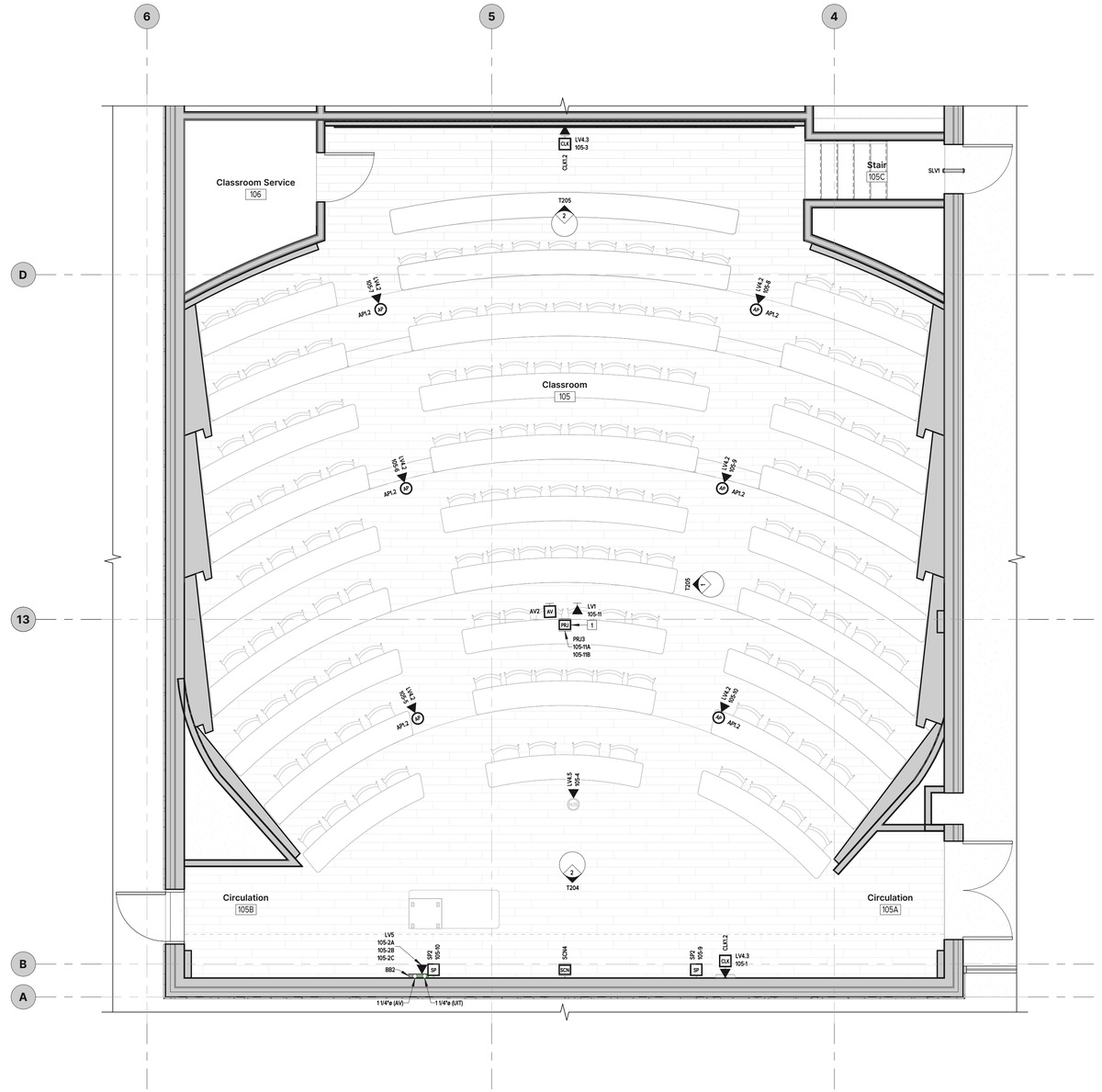
DATE: 12/17/2025

REVISIONS:

103 TECHNOLOGY PLANS

T112

PROJECT # Project Number



1 **105 Technology Plan**
1/4" = 1'-0"

Sheet Notes

1. Final cabling pathways to be determined on site.
2. All equipment locations shall be finalized by MSU AV and UIT departments before wired and installed.

Reference Keynotes

1. 18'-2 3/4" to 29'-5 7/8" projector throw distance range for 189" diagonal screen.

JACKOLA ENGR. & ARCH., P.C.
Engineering, Architecture, Surveying, Land Use Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0107 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

BLACK SHEEP
Mechanical | Electrical | Plumbing | Lighting | Technology
602 W Hemlock | Bozeman, MT 59715
Blacksheep-engineering | 406.312.5774

Construction Documents

MONTANA
ANDREW S. MOORE
No. 38404PE
PROFESSIONAL LICENSED ENGINEER

Reid Hall Renovation

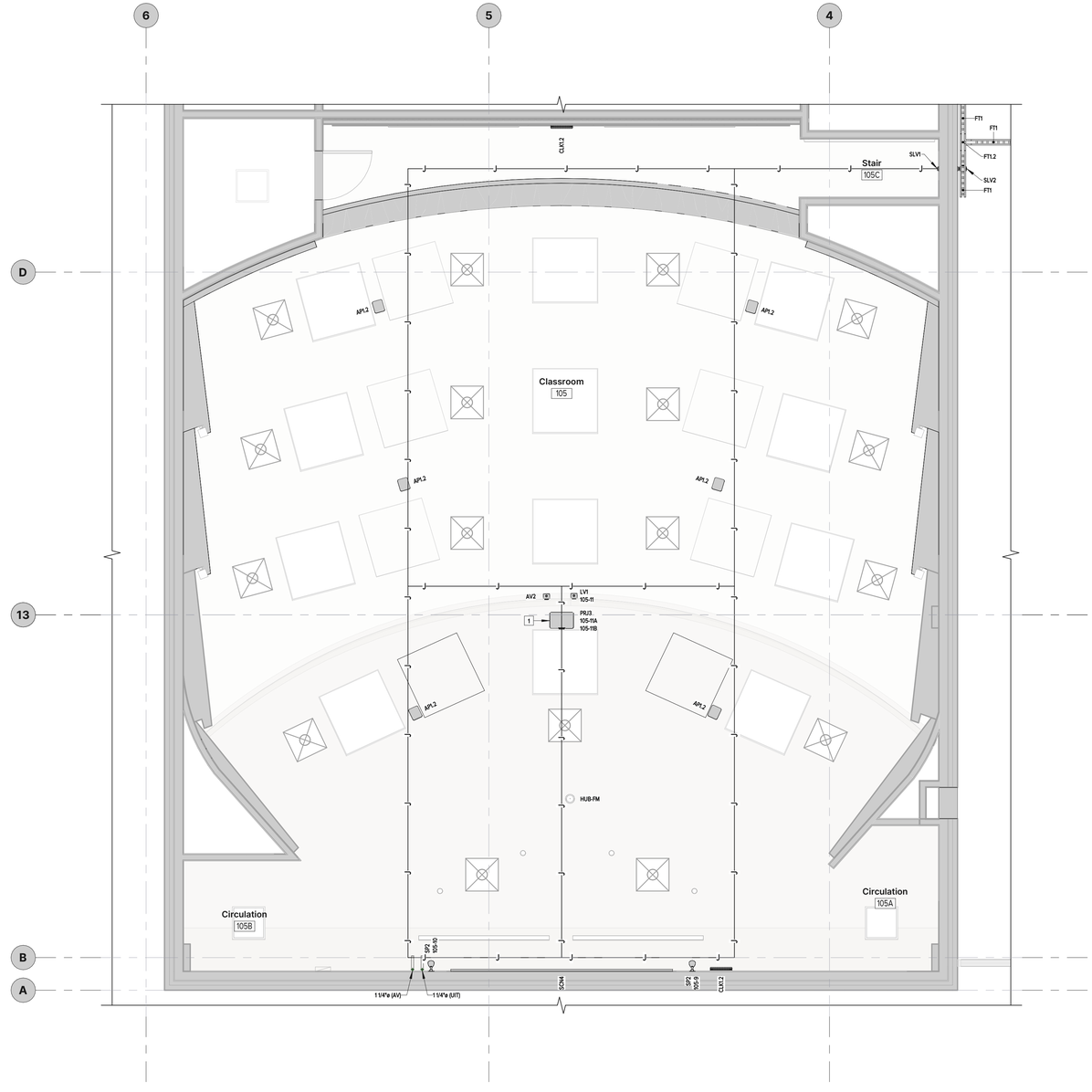
Reid Hall
Bozeman, MT 59717

DRAWN: Author CHECKED: Checker
DATE: 12/17/2025
REVISIONS:

105 TECHNOLOGY PLAN

T113

PROJECT # Project Number



1 **105 Technology Ceiling Plan**
1/4" = 1'-0"

Sheet Notes

1. Final cabling pathways to be determined on site.
2. All equipment locations shall be finalized by MSU AV and UIT departments before wired and installed.

Reference Keynotes

1. 18'-2 3/4" to 29'-5 7/8" projector throw distance range for 189" diagonal screen.

JACKOLA ENGINEERING & ARCHITECTURE, P.C. · SINCE 1969 · Engineering, Architecture, Surveying, Land Use, Planning

KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746

info@jackola.com jackola.com

BLACK SHEEP

Mechanical | Electrical | Plumbing | Lighting | Technology

602 W Hemlock | Bozeman, MT 59715

Blacksheep-engineering | 406.312.5714

Construction Documents

MONTANA · ANDREW S. MOORE · No. 38404PE · LICENSED PROFESSIONAL ENGINEER

Reid Hall Renovation

Reid Hall
Bozeman, MT 59717

DRAWN: Author CHECKED: Checker

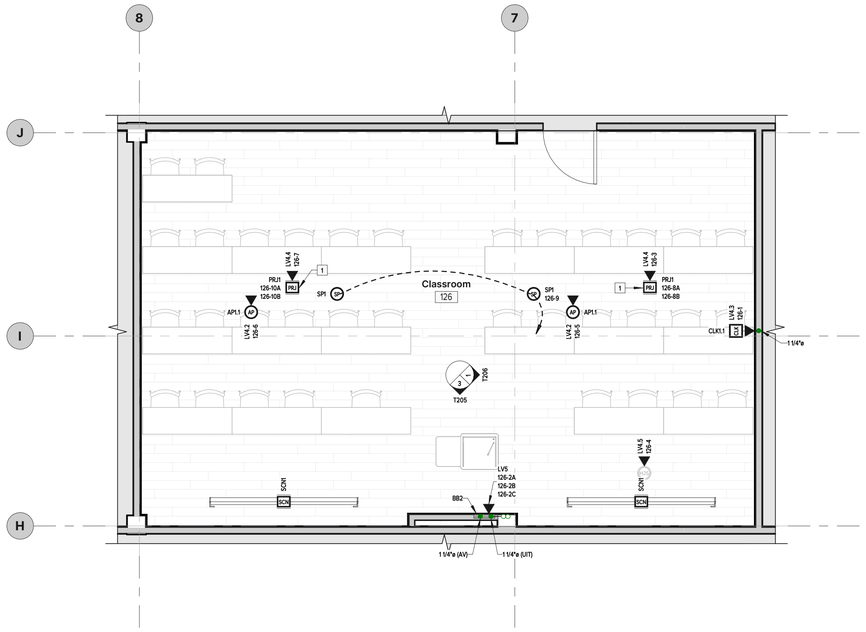
DATE: 12/17/2025

REVISIONS:

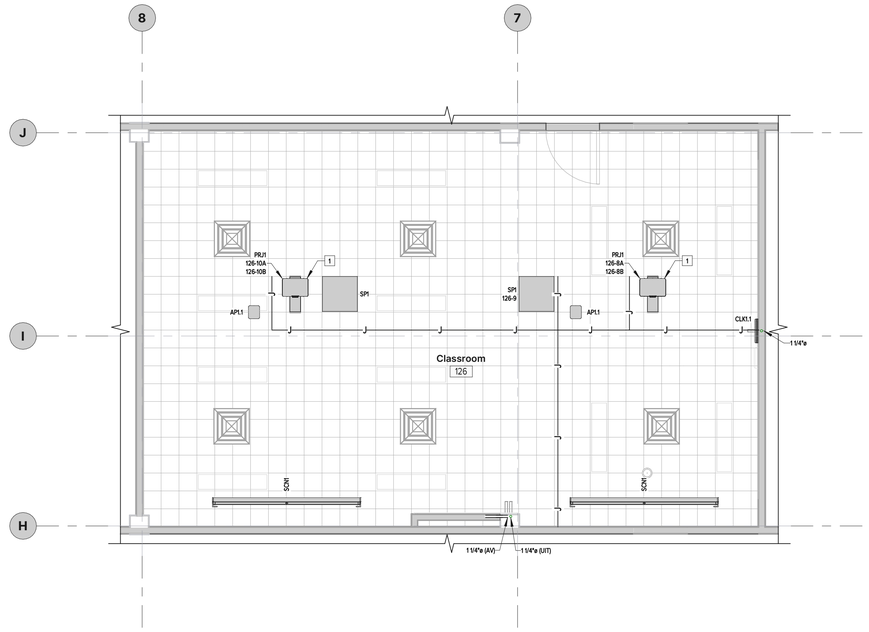
105 TECHNOLOGY CEILING PLAN

T114

PROJECT # Project Number



1 **126 Technology Plan**
1/4" = 1'-0"



2 **126 Technology Ceiling Plan**
1/4" = 1'-0"

Sheet Notes

1. Final cabling pathways to be determined on site.
2. All equipment locations shall be finalized by MSU AV and UIT departments before wired and installed.

Reference Keynotes

1. 10'-5 9/16" to 16'-11 1/2" projector throw distance range for 109" diagonal screen.

JACKOLA ENGINEERING & ARCHITECTURE PC
SINCE 1969
Engineering, Architecture, Surveying, Land Use, Planning

KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

BLACK SHEEP
Mechanical | Electrical | Plumbing | Lighting | Technology
602 W Hemlock | Bozeman, MT 59715
Blacksheep-engineering | 406.312.5774

Construction Documents

MONTANA
ANDREW S. MOORE
No. 38404PE
LICENSED PROFESSIONAL ENGINEER

Reid Hall Renovation

Reid Hall
Bozeman, MT 59717

DRAWN: Author CHECKED: Checker

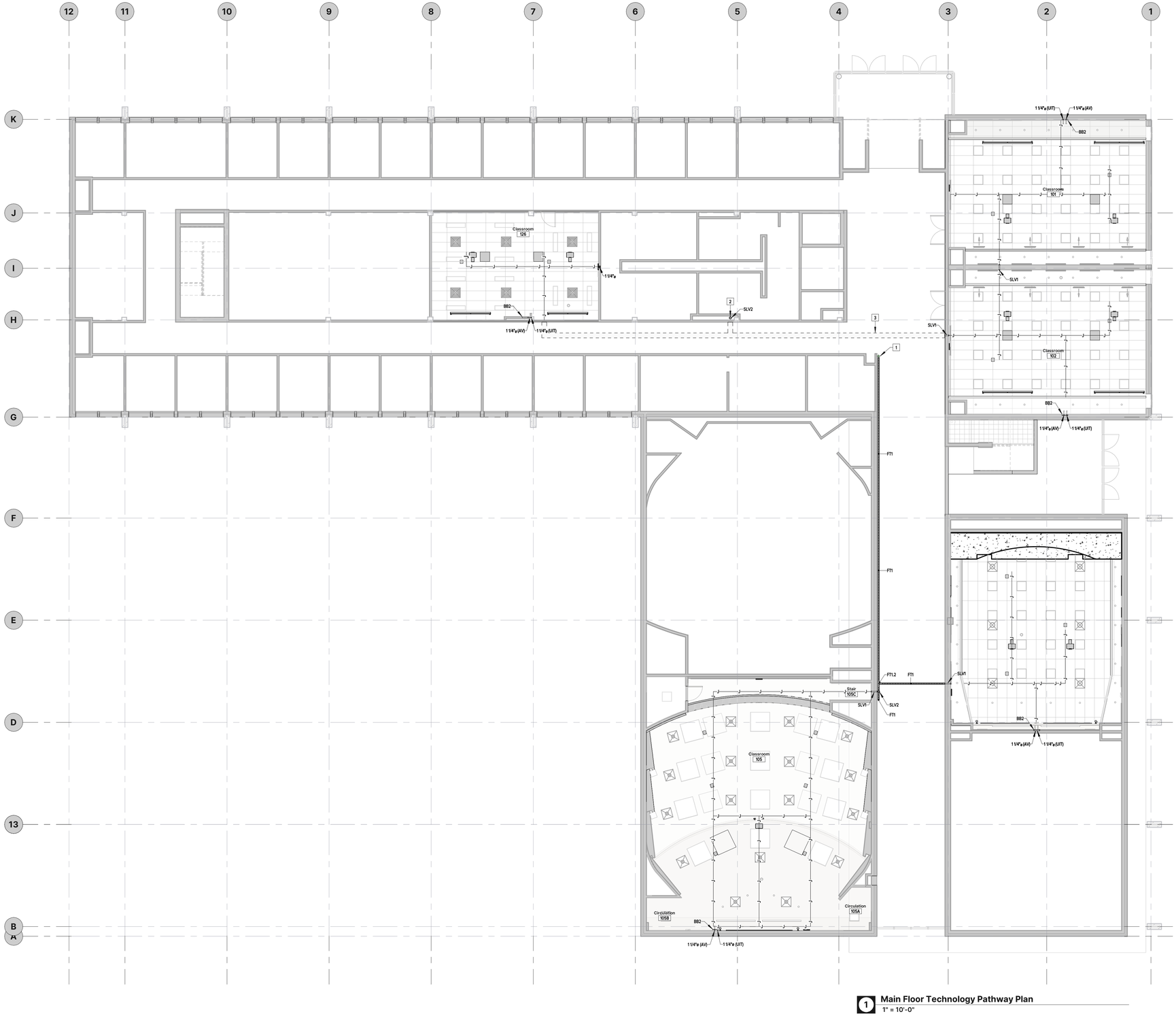
DATE: 12/17/2025

REVISIONS:

126 TECHNOLOGY PLAN

T115

PROJECT # Project Number



1 **Main Floor Technology Pathway Plan**
1" = 10'-0"

Sheet Notes

1. Final cabling pathways to be determined on site.
2. All equipment locations shall be finalized by MSU AV and UIT departments before wired and installed.

Reference Keynotes

1. 4" Conduit to space above finished ceiling.
2. New 4" sleeve and conduit for new cabling, final location to be determined.
3. Existing wiring pathway in ceiling.

JACKOLA ENGINEERING & ARCHITECTURE PLLC
SINCE 1969
Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL | 406-755-3208
BOZEMAN | 406-586-0707
VANCOUVER | 360-852-8746
info@jackola.com jackola.com

BLACK SHEEP
Mechanical | Electrical | Plumbing | Lighting | Technology
602 W Hemlock | Bozeman, MT 59715
Blacksheep-engineering | 406.312.5774

Construction Documents

MONTANA
ANDREW S. MOORE
No. 38404PE
PROFESSIONAL LICENSED ENGINEER

Reid Hall Renovation

Reid Hall
Bozeman, MT 59717

DRAWN: Author CHECKED: Checker

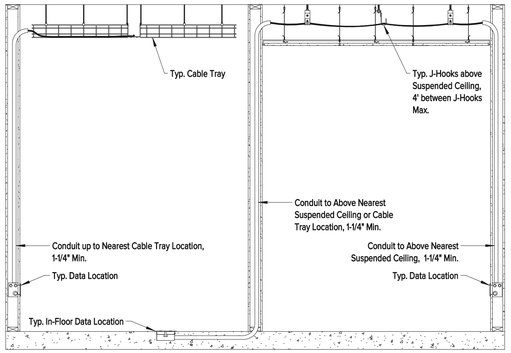
DATE: 12/17/2025

REVISIONS:

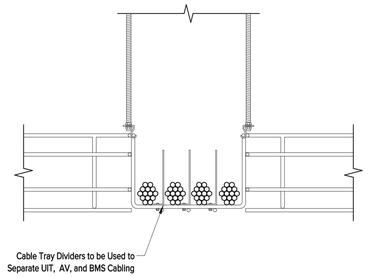
MAIN FLOOR TECHNOLOGY PATHWAY PLAN

T116

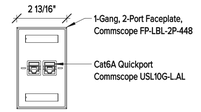
PROJECT # Project Number

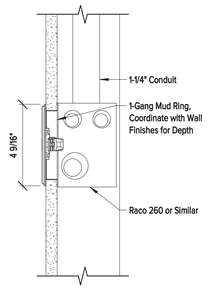


1 Typ. Infrastructure Cabling Support Hardware
1/2" = 1'-0"

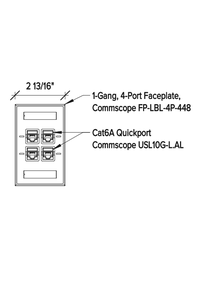


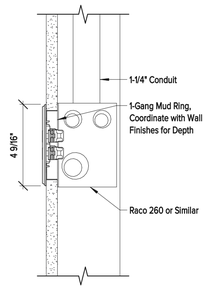
2 Typ. Cable Tray Section
3" = 1'-0"



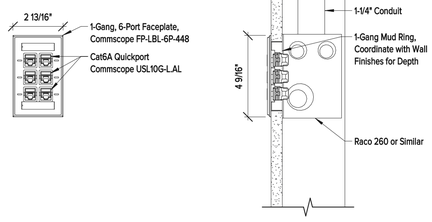


3 Typ. 2-Port Data Trim Plate [LV1]
3" = 1'-0"

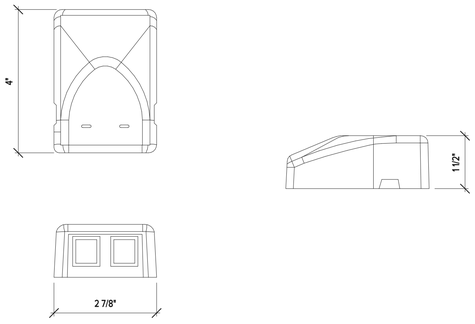




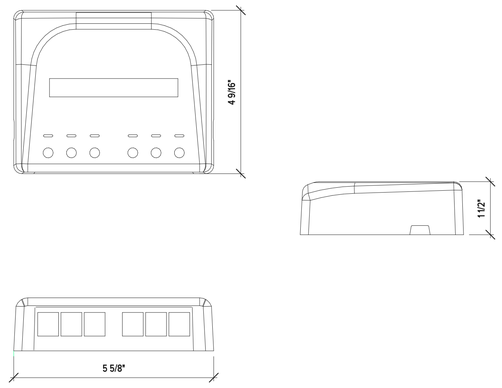
4 Typ. 4-Port Data Trim Plate [LV2]
3" = 1'-0"



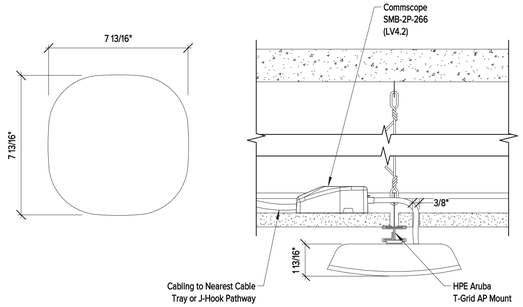
5 Typ. 6-Port Data Trim Plate [LV3]
3" = 1'-0"



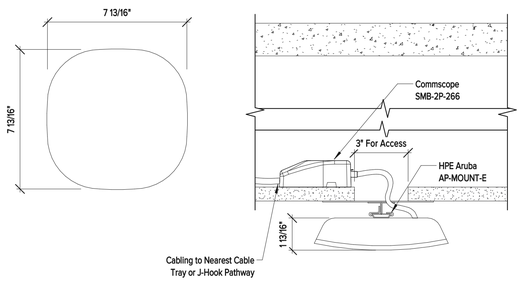
6 Typ. Commscope SMB-2P-266 [LV4.1]
6" = 1'-0"



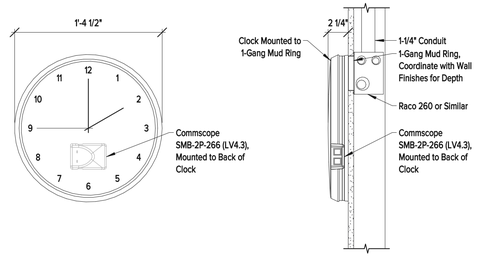
7 Typ. Commscope 1-1933674-3 [LV5]
6" = 1'-0"



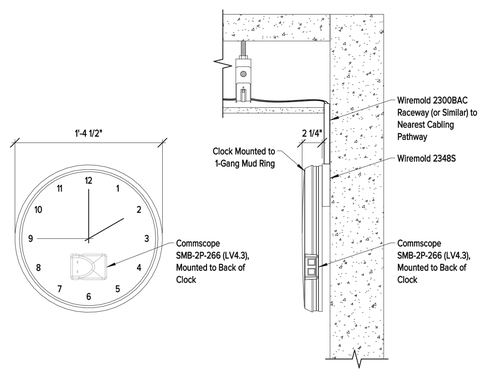
8 Typ. Ceiling Mounted Interior Access Point [AP1.1]
3" = 1'-0"



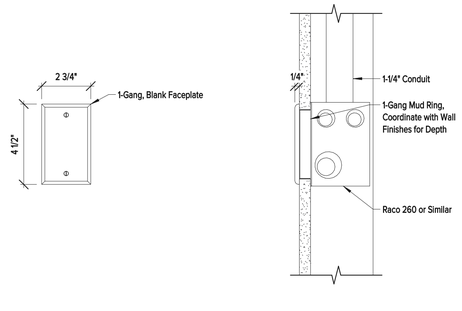
9 Typ. Ceiling Mounted Interior Access Point [AP1.2]
3" = 1'-0"



10 Typ. PoE Clock w/ 4 Sqaure Box [CLK1.1]
1 1/2" = 1'-0"



11 Typ. PoE Clock w/ Wiremold [CLK1.2]
1 1/2" = 1'-0"



12 Typ. Future AV Wiring Location [AV1]
3" = 1'-0"

PROJECT # Project Number

SINCE 1969 INC. JACKOLA Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL | 406-755-3208 | BOZEMAN | 406-586-0707 | VANCOUVER | 360-852-8746
info@jackola.com | jackola.com

BLACK SHEEP
Mechanical | Electrical | Plumbing | Lighting | Technology
602 W Hemlock | Bozeman, MT 59715
Blacksheep.engineering | 406.312.5774

Construction Documents

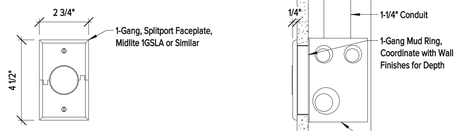
MONTANA ANDREW S. MOORE No. 38404PE LICENSED PROFESSIONAL ENGINEER

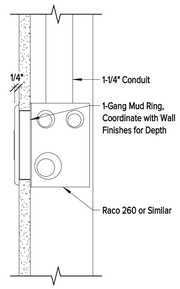
Reid Hall Renovation
Reid Hall
Bozeman, MT 59717

DRAWN: Author CHECKED: Checker
DATE: 12/17/2025
REVISIONS:

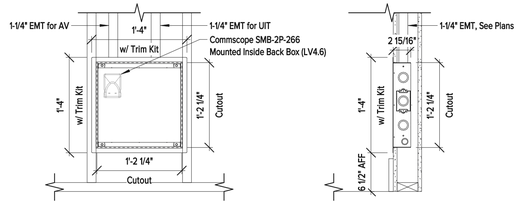
TECHNOLOGY TYPICAL DETAILS

T501

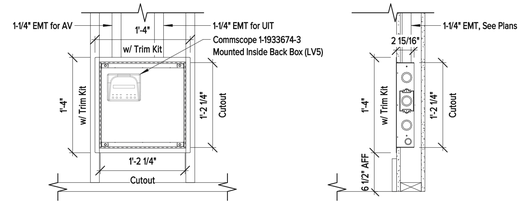




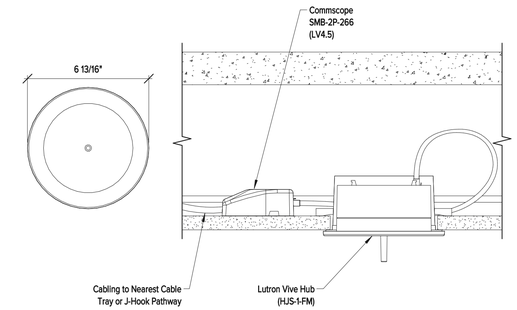
1 **Typ. AV Wiring Location w/ Splitport Faceplate [AV2]**
3" = 1'-0"



2 **Typ. FSR PWB-323-TRK [BB2 & LV4.6]**
1" = 1'-0"



3 **Typ. FSR PWB-323-TRK [BB2 & LV5]**
1" = 1'-0"



4 **Typ. Lutron Vive Hub [HUB-FM & LV4.5]**
3" = 1'-0"

PROJECT # Project Number

SINCE 1969 INC. JACKOLA Engineering, Architecture, Surveying, Land Use, Planning

KALISPELL | BOZEMAN | VANCOUVER
406-755-3208 | 406-586-0707 | 360-852-8746
info@jackola.com | jackola.com

BLACK SHEEP
Mechanical | Electrical | Plumbing | Lighting | Technology
602 W Hemlock | Bozeman, MT 59715
Blacksheep.engineering | 406.312.5774

Construction Documents

MONTANA
ANDREW S. MOORE
No. 38404PE
PROFESSIONAL LICENSED ENGINEER

Reid Hall Renovation

Reid Hall
Bozeman, MT 59717

DRAWN: Author CHECKED: Checker

DATE: 12/17/2025

REVISIONS:

TECHNOLOGY TYPICAL DETAILS

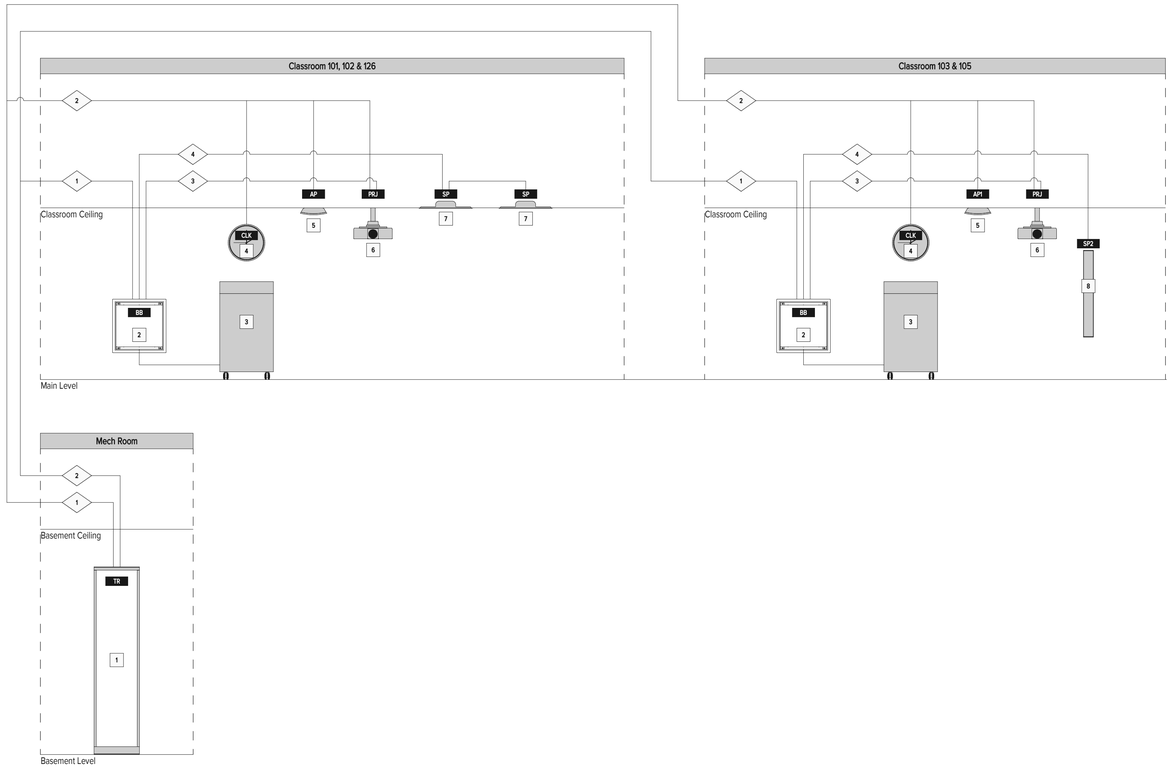
T502

One-Line Diagram

#	Sheet Notes || One-Line Diagram
1	Existing telecommunications room equipment rack.
2	Wall box for AV cabling and 6-port surface mount module.
3	Classroom podium with location AV equipment.
4	PoE clock.
5	Wireless access point.
6	Projector.
7	In-ceiling 70v speaker.
8	On-wall 8ohm column speaker.

#	Sheet Notes || One-Line Cabling
1	(6) Commscope UN884019314 cables from TR.
2	(2) Commscope UN884019314 cables from TR to each device.
3	(4) Shielded category 6 cables to each projector.
4	(1) 16/4 speaker cable to first speaker and looped to remaining speakers.
5	(1) 16/4 speaker cable to each speaker.

Notes:
- Bonding to ground to be provided to all equipment racks, cabling ladder racks, panels satellite dish and demarcation.



JACKOLA
SINCE 1969 PC
Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

BLACK SHEEP
Mechanical | Electrical | Plumbing | Lighting | Technology
602 W Hemlock | Bozeman, MT 59715
Blacksheep-engineering | 406.312.5714

Construction Documents

MONTANA
ANDREW S. MOORE
No. 38404PE
PROFESSIONAL LICENSED ENGINEER

Reid Hall Renovation

Reid Hall
Bozeman, MT 59717

DRAWN: Author CHECKED: Checker
DATE: 12/17/2025

REVISIONS:

TECHNOLOGY ONE-LINE DIAGRAMS

T601

PROJECT # Project Number

Technology Devices

Manufacturer	Model	Description	Qty.	Type
Audio				
Audio Technica	TBD	Wireless Mic Room PA	1	MIC1
Extron	60-1449-01	Mono 70/100V Amplifier, 60W	3	AMP1
Extron	60-849-01	2-Channel Low Impedance Amplifier 60/100 Watts per Channel	2	AMP2
Extron	FF 220T	Full-Range Flat Field Speakers w/ Low Profile Enclosure, 70/100V Transformer	6	SP1
Extron	42-338-02	Long Throw Column Array Speaker, 8 Ohm, Black	4	SP2
Back Box				
FSR	PWB-323-TRK	3" Depth Large Open Style Wall Box w/ Trim Ring	5	BB2
FSR	PWB-323-CV	Project Wall Box Decorative Cover	5	BB-CVR1
Cable Tray				
Cooper B-Line	FT4X4	Straight Flex Tray Section, 4" Deep, 4" Wide	6	FT1
Cooper B-Line	FT4X4 Tee	4" Deep, 4" Wide Horizontal Tee Created with One FT4X4 and Three Washer SPL Kits	1	FT1.2
Control				
Extron	60-1470-02	MediaLink Plus Controller, Black	4	TP1
Extron	60-1562-12	7" Tabletop TouchLink Pro Touchpanel, Black	1	TP2
Data				
American Time	PE64BGPD904	15" PoE Round Surface Clock, Black	1	CLK1.1
American Time	PE64BGPD904	15" PoE Round Surface Clock, Black	5	CLK1.2
CommScope	FP-LBL-2P-448	Faceplate Kit, Labeled, 1-Gang, 2-Port, Light Almond	1	FP1
CommScope	USL10G-LAL	SL Series Modular Jack, RJ45, Cat6A Unshielded, Light Almond	2	QKP1
Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for Wireless Access Points	15	LV4.2
Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for PoE Clocks	6	LV4.3
Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for Projector Locations	9	LV4.4
Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for Lutron VIVE Hub Locations	3	LV4.5
Commscope	1-1933674-3	6-Port Surface Mount Module	5	LV5
Typical	Existing Access Point	Existing Wireless Access Point	9	AP1.1
Typical	Existing Access Point	Existing Wireless Access Point	6	AP1.2
Typical	2-Port Data Jack	2-Port Data Jack Wiring and Trim Plate Location	1	LV1
Video				
Chief	SYSAUW	Suspended Ceiling Projector System, White	8	P-MNT2
Da-Lite	70292	Model C with CSR, 109" Diagonal (16:10), Matte White	2	SCN1
Da-Lite	70296	Model C with CSR, 137" Diagonal (16:10), Matte White	4	SCN2
Da-Lite	70362	Da-Snap Series 137" Diagonal Fixed Screen with Da-Mat Material	2	SCN3
Da-Lite	70373	Da-Snap Series 189" Diagonal Fixed Screen with Da-Mat Material	1	SCN4
Epson	L530U	PowerLite Series Full HD WUXGA Long Throw Laser Projector	4	PRJ1
Epson	L630U	PowerLite Series Full HD WUXGA Long Throw Laser Projector	2	PRJ2
Epson	L690U	PowerLite Series Full HD WUXGA Long Throw Laser Projector	3	PRJ3
Existing	Projector Ceiling Plate	Existing Projector Ceiling Plate	1	CP1
Existing	Projector Extension	Existing Projector Extension	1	P-EXT1
Existing	Projector Mount	Existing Projector Mount	1	P-MNT1
Extron	60-1081-01	Six Input HDCP-Compliant Scaling Presentation Switcher	4	V-MTRX1
Extron	60-1515-01	8x4 Seamless 4K Scaling Presentation Matrix Switcher	1	V-MTRX2
Extron	60-1271-13	DTP Receiver for HDMI	9	V-RX1
Extron	60-1271-12	DTP Transmitter for HDMI	3	V-TX1
Extron	60-1491-12	DTP Transmitter for HDMI with Input Loop-Out	3	V-TX2
Typical	1G Passthrough Plate	Single Gang Passthrough Plate for AV System Cabling	3	AV2
Typical	1G Passthrough Plate	Single Gang Passthrough Plate for AV System Cabling	3	PTP1
WolfVision	VZ-3neo	Visualizer and Document Camera	4	CAM1
WolfVision	VZ-8.UHD	Visualizer and Document Camera	1	CAM2

Classroom 101 & 102 Equipment

Room #	Room Name	Manufacturer	Model	Description	Qty.	Type
101	Classroom	Extron	60-1449-01	Mono 70/100V Amplifier, 60W	1	AMP1
101	Classroom	Typical	Existing Access Point	Existing Wireless Access Point	2	AP1.1
101	Classroom	FSR	PWB-323-TRK	3" Depth Large Open Style Wall Box w/ Trim Ring	1	BB2
101	Classroom	FSR	PWB-323-CV	Project Wall Box Decorative Cover	1	BB-CVR1
101	Classroom	WolfVision	VZ-3neo	Visualizer and Document Camera	1	CAM1
101	Classroom	American Time	PE64BGPD904	15" PoE Round Surface Clock, Black	1	CLK1.2
101	Classroom	Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for Wireless Access Points	2	LV4.2
101	Classroom	Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for PoE Clocks	1	LV4.3
101	Classroom	Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for Projector Locations	2	LV4.4
101	Classroom	Commscope	1-1933674-3	6-Port Surface Mount Module	1	LV5
101	Classroom	Chief	SYSAUW	Suspended Ceiling Projector System, White	2	P-MNT2
101	Classroom	Epson	L530U	PowerLite Series Full HD WUXGA Long Throw Laser Projector	2	PRJ1
101	Classroom	Da-Lite	70296	Model C with CSR, 137" Diagonal (16:10), Matte White	2	SCN2
101	Classroom	Extron	FF 220T	Full-Range Flat Field Speakers w/ Low Profile Enclosure, 70/100V Transformer	2	SP1
101	Classroom	Extron	60-1470-02	MediaLink Plus Controller, Black	1	TP1
101	Classroom	Extron	60-1081-01	Six Input HDCP-Compliant Scaling Presentation Switcher	1	V-MTRX1
101	Classroom	Extron	60-1271-13	DTP Receiver for HDMI	2	V-RX1
101	Classroom	Extron	60-1271-12	DTP Transmitter for HDMI	1	V-TX1
101	Classroom	Extron	60-1491-12	DTP Transmitter for HDMI with Input Loop-Out	1	V-TX2
101	Classroom	Legrand	2300BAC	Wiremold 2300 Series Raceway, Ivory	1	WM1
101	Classroom	Legrand	2348S/51	Wiremold Single Gang Shallow Device Box	1	WMB1
102	Classroom	Extron	60-1449-01	Mono 70/100V Amplifier, 60W	1	AMP1
102	Classroom	Typical	Existing Access Point	Existing Wireless Access Point	2	AP1.1
102	Classroom	FSR	PWB-323-TRK	3" Depth Large Open Style Wall Box w/ Trim Ring	1	BB2
102	Classroom	FSR	PWB-323-CV	Project Wall Box Decorative Cover	1	BB-CVR1
102	Classroom	WolfVision	VZ-3neo	Visualizer and Document Camera	1	CAM1
102	Classroom	American Time	PE64BGPD904	15" PoE Round Surface Clock, Black	1	CLK1.2
102	Classroom	Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for Wireless Access Points	2	LV4.2
102	Classroom	Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for PoE Clocks	1	LV4.3
102	Classroom	Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for Projector Locations	2	LV4.4
102	Classroom	Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for Lutron VIVE Hub Locations	1	LV4.5
102	Classroom	Commscope	1-1933674-3	6-Port Surface Mount Module	1	LV5
102	Classroom	Chief	SYSAUW	Suspended Ceiling Projector System, White	2	P-MNT2
102	Classroom	Epson	L630U	PowerLite Series Full HD WUXGA Long Throw Laser Projector	2	PRJ2
102	Classroom	Da-Lite	70296	Model C with CSR, 137" Diagonal (16:10), Matte White	2	SCN2
102	Classroom	Extron	FF 220T	Full-Range Flat Field Speakers w/ Low Profile Enclosure, 70/100V Transformer	2	SP1
102	Classroom	Extron	60-1470-02	MediaLink Plus Controller, Black	1	TP1
102	Classroom	Extron	60-1081-01	Six Input HDCP-Compliant Scaling Presentation Switcher	1	V-MTRX1
102	Classroom	Extron	60-1271-13	DTP Receiver for HDMI	2	V-RX1
102	Classroom	Extron	60-1271-12	DTP Transmitter for HDMI	1	V-TX1
102	Classroom	Extron	60-1491-12	DTP Transmitter for HDMI with Input Loop-Out	1	V-TX2
102	Classroom	Legrand	2300BAC	Wiremold 2300 Series Raceway, Ivory	1	WM1
102	Classroom	Legrand	2348S/51	Wiremold Single Gang Shallow Device Box	1	WMB1

Classroom 103 Equipment

Room #	Room Name	Manufacturer	Model	Description	Qty.	Type
103	Classroom	Extron	60-849-01	2-Channel Low Impedance Amplifier 60/100 Watts per Channel	1	AMP2
103	Classroom	Typical	Existing Access Point	Existing Wireless Access Point	3	AP1.1
103	Classroom	Typical	1G Passthrough Plate	Single Gang Passthrough Plate for AV System Cabling	2	AV2
103	Classroom	WolfVision	VZ-3neo	Visualizer and Document Camera	1	CAM1
103	Classroom	American Time	PE64BGPD904	15" PoE Round Surface Clock, Black	1	CLK1.2
103	Classroom	Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for Wireless Access Points	3	LV4.2
103	Classroom	Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for PoE Clocks	1	LV4.3
103	Classroom	Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for Projector Locations	3	LV4.4
103	Classroom	Commscope	1-1933674-3	6-Port Surface Mount Module	1	LV5
103	Classroom	Chief	SYSAUW	Suspended Ceiling Projector System, White	2	P-MNT2
103	Classroom	Epson	L690U	PowerLite Series Full HD WUXGA Long Throw Laser Projector	2	PRJ3
103	Classroom	Typical	1G Passthrough Plate	Single Gang Passthrough Plate for AV System Cabling	2	PTP1
103	Classroom	Da-Lite	70362	Da-Snap Series 137" Diagonal Fixed Screen with Da-Mat Material	2	SCN3
103	Classroom	Extron	42-338-02	Long Throw Column Array Speaker, 8 Ohm, Black	2	SP2
103	Classroom	Extron	60-1562-12	7" Tabletop TouchLink Pro Touchpanel, Black	1	TP2
103	Classroom	Extron	60-1515-01	8x4 Seamless 4K Scaling Presentation Matrix Switcher	1	V-MTRX2
103	Classroom	Extron	60-1271-13	DTP Receiver for HDMI	2	V-RX1
103	Classroom	Legrand	2300BAC	Wiremold 2300 Series Raceway, Ivory	1	WM1
103	Classroom	Legrand	2348S/51	Wiremold Single Gang Shallow Device Box	1	WMB1

Classroom 105 Equipment

Room #	Room Name	Manufacturer	Model	Description	Qty.	Type
105	Classroom	Extron	60-849-01	2-Channel Low Impedance Amplifier 60/100 Watts per Channel	1	AMP2
105	Classroom	Typical	Existing Access Point	Existing Wireless Access Point	6	AP1.2
105	Classroom	Typical	1G Passthrough Plate	Single Gang Passthrough Plate for AV System Cabling	1	AV2
105	Classroom	FSR	PWB-323-TRK	3" Depth Large Open Style Wall Box w/ Trim Ring	1	BB2
105	Classroom	FSR	PWB-323-CV	Project Wall Box Decorative Cover	1	BB-CVR1
105	Classroom	WolfVision	VZ-8.UHD	Visualizer and Document Camera	1	CAM2
105	Classroom	American Time	PE64BGPD904	15" PoE Round Surface Clock, Black	2	CLK1.2
105	Classroom	Existing	Projector Ceiling Plate	Existing Projector Ceiling Plate	1	CP1
105	Classroom	CommScope	FP-LBL-2P-448	Faceplate Kit, Labeled, 1-Gang, 2-Port, Light Almond	1	FP1
105	Classroom	Typical	2-Port Data Jack	2-Port Data Jack Wiring and Trim Plate Location	1	LV1
105	Classroom	Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for Wireless Access Points	6	LV4.2
105	Classroom	Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for PoE Clocks	2	LV4.3
105	Classroom	Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for Lutron VIVE Hub Locations	1	LV4.5
105	Classroom	Commscope	1-1933674-3	6-Port Surface Mount Module	1	LV5
105	Classroom	Audio Technica	TBD	Wireless Mic Room PA	1	MIC1
105	Classroom	Existing	Projector Extension	Existing Projector Extension	1	P-EXT1
105	Classroom	Existing	Projector Mount	Existing Projector Mount	1	P-MNT1
105	Classroom	Epson	L690U	PowerLite Series Full HD WUXGA Long Throw Laser Projector	1	PRJ3
105	Classroom	Typical	1G Passthrough Plate	Single Gang Passthrough Plate for AV System Cabling	1	PTP1
105	Classroom	CommScope	USL10G-LAL	SL Series Modular Jack, RJ45, Cat6A Unshielded, Light Almond	2	QKP1
105	Classroom	Da-Lite	70373	Da-Snap Series 189" Diagonal Fixed Screen with Da-Mat Material	1	SCN4
105	Classroom	Extron	42-338-02	Long Throw Column Array Speaker, 8 Ohm, Black	2	SP2
105	Classroom	Extron	60-1470-02	MediaLink Plus Controller, Black	1	TP1
105	Classroom	Extron	60-1081-01	Six Input HDCP-Compliant Scaling Presentation Switcher	1	V-MTRX1
105	Classroom	Extron	60-1271-13	DTP Receiver for HDMI	1	V-RX1
105	Classroom	Legrand	2348S/51	Wiremold Single Gang Shallow Device Box	1	WMB1

Classroom 126 Equipment

Room #	Room Name	Manufacturer	Model	Description	Qty.	Type
126	Classroom	Extron	60-1449-01	Mono 70/100V Amplifier, 60W	1	AMP1
126	Classroom	Typical	Existing Access Point	Existing Wireless Access Point	2	AP1.1
126	Classroom	FSR	PWB-323-TRK	3" Depth Large Open Style Wall Box w/ Trim Ring	1	BB2
126	Classroom	FSR	PWB-323-CV	Project Wall Box Decorative Cover	1	BB-CVR1
126	Classroom	WolfVision	VZ-3neo	Visualizer and Document Camera	1	CAM1
126	Classroom	American Time	PE64BGPD904	15" PoE Round Surface Clock, Black	1	CLK1.1
126	Classroom	Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for Wireless Access Points	2	LV4.2
126	Classroom	Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for PoE Clocks	1	LV4.3
126	Classroom	Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for Projector Locations	2	LV4.4
126	Classroom	Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for Lutron VIVE Hub Locations	1	LV4.5
126	Classroom	Commscope	1-1933674-3	6-Port Surface Mount Module	1	LV5
126	Classroom	Chief	SYSAUW	Suspended Ceiling Projector System, White	2	P-MNT2
126	Classroom	Epson	L530U	PowerLite Series Full HD WUXGA Long Throw Laser Projector	2	PRJ1
126	Classroom	Da-Lite	70292	Model C with CSR, 109" Diagonal (16:10), Matte White	2	SCN1
126	Classroom	Extron	FF 220T	Full-Range Flat Field Speakers w/ Low Profile Enclosure, 70/100V Transformer	2	SP1
126	Classroom	Extron	60-1470-02	MediaLink Plus Controller, Black	1	TP1
126	Classroom	Extron	60-1081-01	Six Input HDCP-Compliant Scaling Presentation Switcher	1	V-MTRX1
126	Classroom	Extron	60-1271-13	DTP Receiver for HDMI	2	V-RX1
126	Classroom	Extron	60-1271-12	DTP Transmitter for HDMI	1	V-TX1
126	Classroom	Extron	60-1491-12	DTP Transmitter for HDMI with Input Loop-Out	1	V-TX2

PROJECT # Project Number

JACKOLA ENGINEERING & ARCHITECTURE PLLC
SINCE 1969
Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

BLACK SHEEP
Mechanical | Electrical | Plumbing | Lighting | Technology
602 W Hemlock | Bozeman, MT 59715
Blacksheep-engineering | 406.312.5174

Construction Documents

MONTANA
ANDREW S. MOORE
No. 38404PE
PROFESSIONAL LICENSED ENGINEER

Reid Hall Renovation

Reid Hall
Bozeman, MT 59717

DRAWN: Author CHECKED: Checker

DATE: 12/17/2025

REVISIONS:

TECHNOLOGY EQUIPMENT SCHEDULES

T602

Typical Technology Device Cabling Types

Manufacturer	Model	Description	Type	Cabling Types	Cabling Headend
Audio					
Extron	FF 220T	Full-Range Flat Field Speakers w/ Low Profile Enclosure, 70/100V Transformer	SP1	(1) 16/4 Speaker Cable	Classroom AV Equipment
Extron	42-338-02	Long Throw Column Array Speaker, 8 Ohm, Black	SP2	(1) 16/4 Speaker Cable	Classroom AV Equipment
Control					
Extron	60-1470-02	MediaLink Plus Controller, Black	TP1	(1) Shielded CAT6 Cable	Classroom AV Equipment
Data					
Typical	Existing Access Point	Existing Wireless Access Point	AP1.1	(1) Commscope UC1AAA2-0CF00X (Length TBD)	Telecommunications Room (TR#)
Typical	Existing Access Point	Existing Wireless Access Point	AP1.2	(1) Commscope UC1AAA2-0CF00X (Length TBD)	Telecommunications Room (TR#)
American Time	PE64BGPD904	15" PoE Round Surface Clock, Black	CLK1.1	(2) Commscope UN884019314 Cables	Telecommunications Room (TR#)
American Time	PE64BGPD904	15" PoE Round Surface Clock, Black	CLK1.2	(2) Commscope UN884019314 Cables	Telecommunications Room (TR#)
Typical	2-Port Data Jack	2-Port Data Jack Wiring and Trim Plate Location	LV1	(2) CommScope UN884019314 Cables	Telecommunications Room (TR#)
Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for Wireless Access Points	LV4.2	(2) Commscope UN884019314 Cables	Telecommunications Room (TR#)
Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for PoE Clocks	LV4.3	(2) Commscope UN884019314 Cables	Telecommunications Room (TR#)
Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for Projector Locations	LV4.4	(2) Commscope UN884019314 Cables	Telecommunications Room (TR#)
Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for Lutron VIVE Hub Locations	LV4.5	(2) Commscope UN884019314 Cables	Telecommunications Room (TR#)
Commscope	1-1933674-3	6-Port Surface Mount Module	LV5	(6) Commscope UN884019314 Cables	Telecommunications Room (TR#)
Video					
Epson	L530U	PowerLite Series Full HD WUXGA Long Throw Laser Projector	PRJ1	(4) Shielded CAT6 Cables	Classroom AV Equipment
Epson	L630U	PowerLite Series Full HD WUXGA Long Throw Laser Projector	PRJ2	(4) Shielded CAT6 Cables	Classroom AV Equipment
Epson	L690U	PowerLite Series Full HD WUXGA Long Throw Laser Projector	PRJ3	(4) Shielded CAT6 Cables	Classroom AV Equipment

Classroom 101 & 102 Device Wiring

Room #	Room Name	Manufacturer	Model	Description	Type	Wire Label
101	Classroom	Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for PoE Clocks	LV4.3	101-1
101	Classroom	Commscope	1-1933674-3	6-Port Surface Mount Module	LV5	101-2A, 101-2B, 101-2C
101	Classroom	Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for Wireless Access Points	LV4.2	101-3
101	Classroom	Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for Wireless Access Points	LV4.2	101-4
101	Classroom	Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for Projector Locations	LV4.4	101-5
101	Classroom	Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for Projector Locations	LV4.4	101-6
101	Classroom	Epson	L530U	PowerLite Series Full HD WUXGA Long Throw Laser Projector	PRJ1	101-7A, 101-7B
101	Classroom	Extron	FF 220T	Full-Range Flat Field Speakers w/ Low Profile Enclosure, 70/100V Transformer	SP1	101-8
101	Classroom	Epson	L530U	PowerLite Series Full HD WUXGA Long Throw Laser Projector	PRJ1	101-9A, 101-9B
102	Classroom	Commscope	1-1933674-3	6-Port Surface Mount Module	LV5	102-1A, 102-1B, 102-1C
102	Classroom	Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for PoE Clocks	LV4.3	102-2
102	Classroom	Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for Projector Locations	LV4.4	102-3
102	Classroom	Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for Lutron VIVE Hub Locations	LV4.5	102-4
102	Classroom	Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for Projector Locations	LV4.4	102-5
102	Classroom	Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for Wireless Access Points	LV4.2	102-6
102	Classroom	Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for Wireless Access Points	LV4.2	102-7
102	Classroom	Epson	L630U	PowerLite Series Full HD WUXGA Long Throw Laser Projector	PRJ2	102-8A, 102-8B
102	Classroom	Epson	L630U	PowerLite Series Full HD WUXGA Long Throw Laser Projector	PRJ2	102-9A, 102-9B
102	Classroom	Extron	FF 220T	Full-Range Flat Field Speakers w/ Low Profile Enclosure, 70/100V Transformer	SP1	102-10

Classroom 103 Device Wiring

Room #	Room Name	Manufacturer	Model	Description	Type	Wire Label
103	Classroom	Commscope	1-1933674-3	6-Port Surface Mount Module	LV5	103-1A, 103-1B, 103-1C
103	Classroom	Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for PoE Clocks	LV4.3	103-2
103	Classroom	Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for Wireless Access Points	LV4.2	103-3
103	Classroom	Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for Projector Locations	LV4.4	103-4
103	Classroom	Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for Projector Locations	LV4.4	103-5
103	Classroom	Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for Wireless Access Points	LV4.2	103-6
103	Classroom	Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for Wireless Access Points	LV4.2	103-7
103	Classroom	Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for Projector Locations	LV4.4	103-8
103	Classroom	Extron	42-338-02	Long Throw Column Array Speaker, 8 Ohm, Black	SP2	103-9
103	Classroom	Extron	42-338-02	Long Throw Column Array Speaker, 8 Ohm, Black	SP2	103-10
103	Classroom	Epson	L690U	PowerLite Series Full HD WUXGA Long Throw Laser Projector	PRJ3	103-11A, 103-11B
103	Classroom	Epson	L690U	PowerLite Series Full HD WUXGA Long Throw Laser Projector	PRJ3	103-12A, 103-12B

Classroom 105 Device Wiring

Room #	Room Name	Manufacturer	Model	Description	Type	Wire Label
105	Classroom	Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for PoE Clocks	LV4.3	105-1
105	Classroom	Commscope	1-1933674-3	6-Port Surface Mount Module	LV5	105-2A, 105-2B, 105-2C
105	Classroom	Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for PoE Clocks	LV4.3	105-3
105	Classroom	Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for Lutron VIVE Hub Locations	LV4.5	105-4
105	Classroom	Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for Wireless Access Points	LV4.2	105-5
105	Classroom	Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for Wireless Access Points	LV4.2	105-6
105	Classroom	Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for Wireless Access Points	LV4.2	105-7
105	Classroom	Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for Wireless Access Points	LV4.2	105-8
105	Classroom	Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for Wireless Access Points	LV4.2	105-9
105	Classroom	Extron	42-338-02	Long Throw Column Array Speaker, 8 Ohm, Black	SP2	105-9
105	Classroom	Extron	42-338-02	Long Throw Column Array Speaker, 8 Ohm, Black	SP2	105-10
105	Classroom	Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for Wireless Access Points	LV4.2	105-10
105	Classroom	Typical	2-Port Data Jack	2-Port Data Jack Wiring and Trim Plate Location	LV1	105-11
105	Classroom	Epson	L690U	PowerLite Series Full HD WUXGA Long Throw Laser Projector	PRJ3	105-11A, 105-11B

Classroom 126 Device Wiring

Room #	Room Name	Manufacturer	Model	Description	Type	Wire Label
126	Classroom	Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for PoE Clocks	LV4.3	126-1
126	Classroom	Commscope	1-1933674-3	6-Port Surface Mount Module	LV5	126-2A, 126-2B, 126-2C
126	Classroom	Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for Projector Locations	LV4.4	126-3
126	Classroom	Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for Lutron VIVE Hub Locations	LV4.5	126-4
126	Classroom	Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for Wireless Access Points	LV4.2	126-5
126	Classroom	Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for Wireless Access Points	LV4.2	126-6
126	Classroom	Commscope	SMB-2P-266	2-Port Universal Surface Mount Jack for Projector Locations	LV4.4	126-7
126	Classroom	Epson	L530U	PowerLite Series Full HD WUXGA Long Throw Laser Projector	PRJ1	126-8A, 126-8B
126	Classroom	Extron	FF 220T	Full-Range Flat Field Speakers w/ Low Profile Enclosure, 70/100V Transformer	SP1	126-9
126	Classroom	Epson	L530U	PowerLite Series Full HD WUXGA Long Throw Laser Projector	PRJ1	126-10A, 126-10B

JACKOLA ENGINEERING & ARCHITECTURE PLLC
SINCE 1969
Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

BLACK SHEEP
Mechanical | Electrical | Plumbing | Lighting | Technology
602 W Hemlock | Bozeman, MT 59715
Blacksheep-engineering | 406.312.5714

Construction Documents

MONTANA
ANDREW S. MOORE
No. 38404PE
PROFESSIONAL ENGINEER
LICENSED

Reid Hall Renovation

Reid Hall
Bozeman, MT 59717

DRAWN: Author CHECKED: Checker

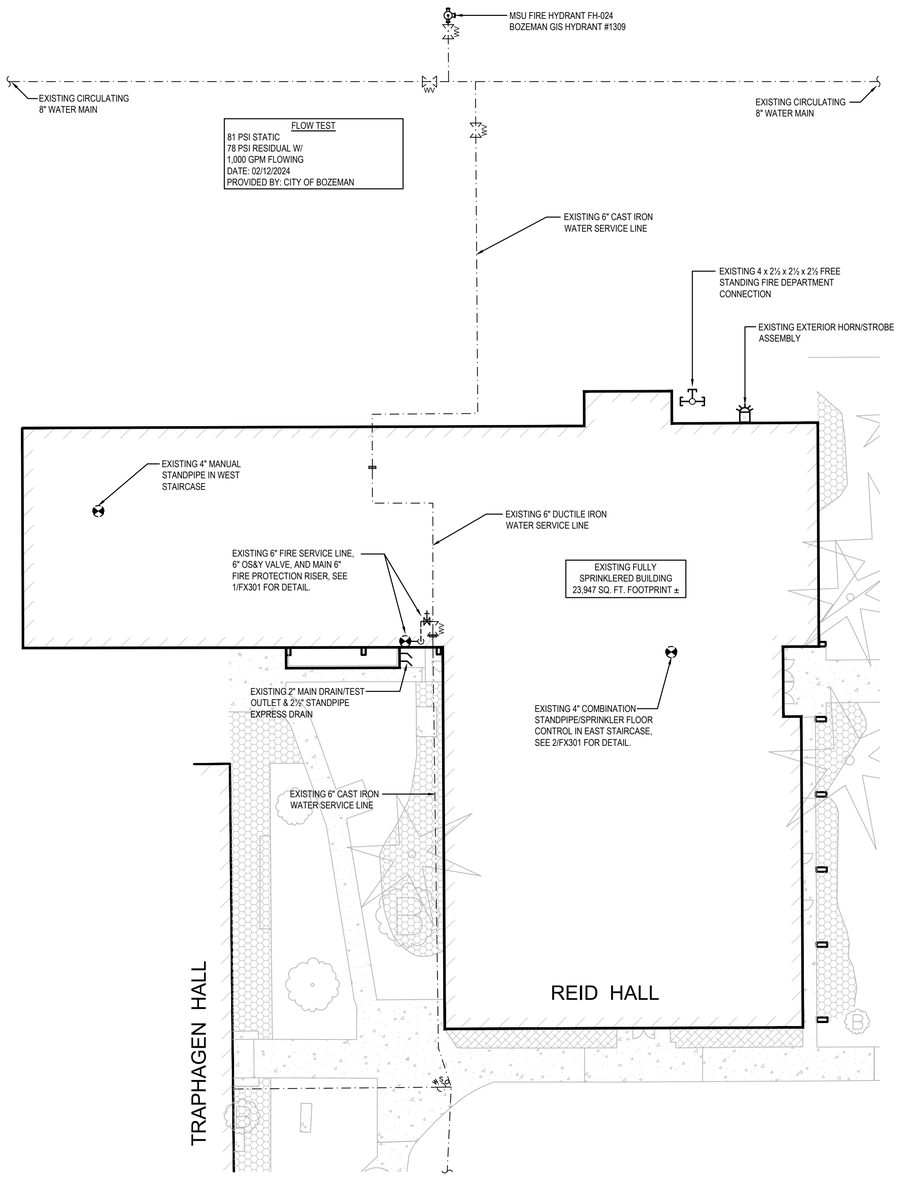
DATE: 12/17/2025

REVISIONS:

TECHNOLOGY CABLING SCHEDULES

T603

PROJECT # Project Number



1 EXISTING FIRE SPRINKLER REFERENCE SITE PLAN
SCALE: 1" = 20'

NORTH

GENERAL FIRE SUPPRESSION SYSTEM NOTES

1. SCOPE OF WORK: DEMOLISH THE EXISTING WET PIPE SPRINKLER SYSTEM IN THE AREAS OF WORK AS INDICATED ON THE DRAWINGS. MODIFY THE EXISTING WET PIPE SPRINKLER SYSTEM AS REQUIRED IN THE AREAS OF WORK TO PROVIDE COMPLETE PROTECTION THROUGHOUT THE RENOVATED AREAS AS SHOWN ON THE DRAWINGS. THE AUTOMATIC SPRINKLER SYSTEM SHALL BE HYDRAULICALLY CALCULATED. CONTRACTOR SHALL PROVIDE ALL EQUIPMENT, LABOR, AND MATERIAL FOR AN ACCEPTED AUTOMATIC SPRINKLER SYSTEM, INCLUDING FIRE PROTECTION PIPING, HANGERS, EARTHQUAKE BRACING, SPRINKLERS, DRAINS, AND ALL OTHER ASSOCIATED EQUIPMENT INDICATED OR NOT ON THESE DRAWINGS AND THE SPECIFICATIONS, FOR A COMPLETE FIRE SUPPRESSION SYSTEM COMPLYING WITH NFPA 13 AND ANY OTHER LISTED CODES OR REFERENCE.
2. THE FIRE PROTECTION SYSTEMS SHALL BE DESIGNED, INSTALLED, TESTED, AND FLUSHED IN ACCORDANCE WITH THE FOLLOWING:
   A. INTERNATIONAL BUILDING CODE (IBC) - 2021 EDITION WITH LOCALLY ADOPTED MODIFICATIONS
   B. NFPA 13 (STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS) - 2019 EDITION
   C. PROJECT SPECIFICATIONS
3. THE FIRE SUPPRESSION SYSTEM SHOWN ON THE PLANS IS CONCEPTUAL ONLY AND PROVIDED TO CONVEY DESIGN INTENT. THE CONTRACTOR SHALL PROVIDE A COMPLETE SPRINKLER SYSTEM IN THE AREA(S) OF WORK. COORDINATE FINAL PIPE ROUTING AND SPRINKLER LOCATIONS WITH ALL OTHER TRADES AS REQUIRED. THE CONTRACTOR SHALL INSTALL THE SYSTEM IN ACCORDANCE WITH ALL APPLICABLE CODES, THE MANUFACTURER'S RECOMMENDATIONS, AND PER THE EQUIPMENT'S LISTING.
4. DRAWINGS AND REFLECTED CEILING PLANS ARE PROVIDED FOR REFERENCE ONLY. SEE ARCHITECTURAL, ELECTRICAL, MECHANICAL, AND STRUCTURAL DRAWINGS FOR CEILING TYPES AND HEIGHTS, LIGHTING FIXTURE LOCATIONS, DUCTS, BEAMS, AND OTHER OBSTRUCTIONS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL JOB CONDITIONS AND DIMENSIONS ON DRAWINGS PRIOR TO EXECUTION OF THIS CONTRACT AND COORDINATE WITH ALL TRADES.
5. FIRE SPRINKLER PIPING SHALL COMPLY WITH NFPA 13 AND THE PROJECT SPECIFICATIONS. ALL PIPING IN FINISHED AREAS SHALL BE CONCEALED UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS.
6. ALL NEW SPRINKLERS SHALL BE INSTALLED IN THE CENTER OF TILE IN AREAS WITH 2'x2' SUSPENDED CEILING TILES. SPRINKLERS SHALL BE INSTALLED IN QUARTER POINTS OR IN THE CENTER OF CEILING TILE IN AREAS WITH 2'x4' SUSPENDED CEILING TILES.
7. ALL SPRINKLERS SHALL BE QUICK RESPONSE UNLESS OTHERWISE NOTED OR REQUIRED BY CODE. IN THE AREAS OF WORK, SPRINKLERS SHALL BE WHITE RECESSED PENDENTS U.O.N.
8. IT IS THE INTENT OF THIS DESIGN TO NOT CORE DRILL STRUCTURAL MEMBERS EXCEPT WHERE INDICATED FOR FLOOR SLABS AND CMU WALLS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CORE DRILLING. ALL PENETRATIONS IN WALLS SHALL BE SEALED TO THE FULL THICKNESS OF THE PENETRATION WITH APPROVED FIRE STOPPING MATERIAL OF EQUAL OR GREATER FIRE RESISTANCE. SEE ARCHITECTURAL PLANS FOR LOCATION OF SMOKE AND FIRE BARRIER WALLS.
9. PROVIDE HANGERS, BRANCHLINE RESTRAINT, AND SEISMIC BRACING THROUGHOUT THE AREA(S) OF WORK IN ACCORDANCE WITH NFPA 13. ADDITIONALLY, PROVIDE PROPER CLEARANCES, SLEEVES, OR FLEXIBLE COUPLINGS AROUND PIPING WHERE REQUIRED IN ACCORDANCE WITH NFPA 13.
10. SPARE SPRINKLERS SHALL BE PROVIDED IN ACCORDANCE WITH NFPA 13.
11. PROVIDE LABEL TAG INDICATING "NORMALLY OPEN" OR "NORMALLY CLOSED" ON ALL VALVES INCLUDING AND NOT LIMITED TO ALL RISER AND TRIM, SECTIONAL VALVES, INSPECTOR'S TEST VALVES, AND DRAINS.
12. ALL FIRE PROTECTION DEVICES AND EQUIPMENT SHALL BE UL LISTED OR FM APPROVED AND INSTALLED PER THE LISTING AND MANUFACTURER'S INSTALLATION REQUIREMENTS.
13. PROVIDE AUXILIARY LOW POINT DRAINS FOR THE WET PIPE SYSTEM IN ACCORDANCE WITH NFPA 13. WHERE AUXILIARY DRAINS ARE INSTALLED BEHIND A HARD-LID CEILING, PROVIDE AN ACCESS PANEL DIRECTLY BENEATH THE DRAIN. LOCATIONS OF AUXILIARY DRAINS SHALL BE CLEARLY INDICATED ON THE WORKING DRAWINGS.
14. THE FIRE SUPPRESSION SYSTEM SHALL BE SUPERVISED IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE AND NFPA 72. ALL FIRE PROTECTION SYSTEM WATER FLOW AND CONTROL VALVE SUPERVISORY SWITCHES SHALL BE MONITORED BY THE BUILDING'S FIRE ALARM SYSTEM. COORDINATE WITH THE FIRE ALARM CONTRACTOR SUCH THAT ELECTRICAL CONNECTIONS CAN BE MADE BETWEEN THESE DEVICES AND THE BUILDING'S FIRE ALARM SYSTEM.
15. IT IS THE OWNER'S RESPONSIBILITY TO PROVIDE ADEQUATE HEAT TO PREVENT FREEZING THROUGHOUT WET PIPE SPRINKLER SYSTEM AREAS AND IN ENCLOSURES FOR DRY PIPE AND OTHER TYPES OF VALVES CONTROLLING WATER SUPPLIES TO SPRINKLER SYSTEMS.
16. PROVIDE INSPECTION AND TESTING IN ACCORDANCE WITH NFPA 13 AND THE PROJECT SPECIFICATIONS.
17. NO INSTALLATION OF ANY PIPING OR EQUIPMENT IS TO BEGIN PRIOR TO APPROVAL OF PLANS BY THE AUTHORITY HAVING JURISDICTION AND THE OWNER'S REPRESENTATIVE.

FIRE PROTECTION DESIGN CRITERIA

THE FIRE SUPPRESSION SYSTEM SHALL BE HYDRAULICALLY DESIGNED AND INSTALLED IN ACCORDANCE WITH THE FOLLOWING CRITERIA FROM NFPA 13. HAZARDS FOR INDIVIDUAL AREAS ARE NOTED ON THE DRAWINGS.

AUTOMATIC WET PIPE FIRE SPRINKLER SYSTEM
- A. LIGHT HAZARD AREAS
  - DESIGN DENSITY: 0.10 GPM/SQ FT
  - DESIGN AREA: 1,500 SQ FT
  - HOSE ALLOWANCE: 100 GPM
- B. ORDINARY HAZARD GROUP 1 AREAS
  - DESIGN DENSITY: 0.15 GPM/SQ FT
  - DESIGN AREA: 1,500 SQ FT
  - HOSE ALLOWANCE: 250 GPM
- C. ORDINARY HAZARD GROUP 2 AREAS
  - DESIGN DENSITY: 0.20 GPM/SQ FT
  - DESIGN AREA: 1,500 SQ FT
  - HOSE ALLOWANCE: 250 GPM

NOTES:
1. DESIGN AREA REDUCTIONS FOR QUICK-RESPONSE SPRINKLERS MAY BE USED ON THE WET PIPE SPRINKLER SYSTEM IF PERMITTED BY NFPA 13.
2. INCREASE THE DESIGN AREA BY 30% FOR SLOPED CEILINGS AS REQUIRED BY NFPA 13.
3. FIRE PROTECTION CONTRACTOR MAY REDUCE PIPE SIZES SHOWN ON PLANS BASED ON FINAL HYDRAULIC CALCULATIONS.

SEISMIC BRACING REQUIREMENTS

EARTHQUAKE BRACING SHALL CONFORM WITH N.F.P.A. #13, INTERNATIONAL BUILDING CODE, NEHRP, AND ASCE/SEI 7 CRITERIA.

DESCRIPTION OF SITE CONDITIONS	
MAPPED SPECTRAL ACCELERATION FOR SHORT PERIODS	S_S = 0.680
MAPPED SPECTRAL ACCELERATION FOR A 1-SECOND PERIOD	S_1 = 0.214
SITE CLASS	D
SEISMIC OCCUPANCY CATEGORY OF BUILDING	II
MAXIMUM SPECTRAL RESPONSE ACCELERATION AT SHORT PERIODS	S_{DS} = 0.590
MAXIMUM SPECTRAL RESPONSE ACCELERATION AT 1-SECOND PERIODS	S_{D1} = 0.330
SEISMIC DESIGN CATEGORY BASED ON S_{DS}	D
SEISMIC DESIGN CATEGORY BASED ON S_{D1}	D
SEE CALCULATIONS BELOW FOR DETERMINATION OF FORCE FACTOR FOR SEISMIC DESIGN CATEGORY 'C' & 'D'.	
COMPONENT IMPORTANCE FACTOR	I_P = 1.50
COMPONENT RESPONSE MODIFICATION FACTOR	R_P = 4.50
COMPONENT AMPLIFICATION FACTOR	A_P = 2.50
HEIGHT IN STRUCTURE OF POINT OF ATTACHMENT W/ RESPECT TO THE BASE	Z = 50'
AVERAGE ROOF HEIGHT OF STRUCTURE WITH RESPECT TO THE BASE	H = 50'

$$F_P = \frac{0.4 * A_P * S_{DS} * W_P * (1+2*\frac{Z}{H})}{\frac{R_P}{I_P}}$$

F_P = SEISMIC DESIGN FORCE, C_P = FORCE FACTOR
W_P = 1.15 TIMES WEIGHT OF WATER FILLED PIPE
$F_P = C_P * W_P$ $\quad F_P = 0.590 * W_P$
ASCE 7 ALLOWS A REDUCTION FACTOR OF 1.4 FOR STRESS BASED DESIGN: $F_P = 0.421 * W_P$

BRANCHLINE RESTRAINT REQUIREMENTS

SEISMIC COEFFICIENT, C_P= 0.421 SEE SEISMIC CALCULATIONS FOR C_P VALUES	STEEL BRANCH LINE SIZE			
	1"	1¼"	1½"	2"
MAXIMUM SPACING OF BRANCH LINE RESTRAINTS	43'	46'	49'	53'

WHERE NOT REQUIRED:
-NO RESTRAINT REQUIRED IF HANGER ROD IS LESS THAN 6" LONG MEASURED BETWEEN THE TOP OF THE PIPE AND THE POINT OF ATTACHMENT TO THE BUILDING STRUCTURE.
WHERE REQUIRED:
-ON ALL BRANCH LINES (WITH HANGER ROD >6") AT INTERVALS NOT EXCEEDING THOSE SPECIFIED IN TABLE ABOVE BASED ON BRANCH LINE DIAMETER AND THE VALUE OF C_P.
-SPRIG-UPS 4'-0" OR LONGER SHALL BE RESTRAINED AGAINST LATERAL MOVEMENT.

-RESTRAINT SHALL BE PROVIDED BY USE OF ONE OF THE FOLLOWING:
1) A LISTED SWAY BRACE ASSEMBLY
2) A WRAPAROUND U-HOOK
3) #12, 440-LB WIRE INSTALLED AT LEAST 45° FROM THE VERTICAL PLANE AND ANCHORED ON BOTH SIDES OF THE PIPE.
4) A HANGER NOT LESS THAN 45° FROM VERTICAL INSTALLED WITHIN 6" OF THE VERTICAL HANGER ARRANGED FOR RESTRAINT AGAINST UPWARD MOVEMENT, PROVIDED IT IS UTILIZED SUCH THAT L/R DOES NOT EXCEED 300, WHERE THE ROD SHALL EXTEND TO THE PIPE OR HAVE A SURGE CLIP RESTRAINT.
5) OTHER APPROVED MEANS

-WIRES USED FOR PIPING RESTRAINTS SHOULD BE ATTACHED TO THE BRANCH LINE WITH TWO TIGHT TURNS AROUND THE PIPE AND FASTENED WITH FOUR TIGHT TURNS WITHIN 1-1/2"(SEE DETAIL), AND ATTACHED TO THE STRUCTURE WITH MEANS APPROVED BY NFPA.

-RESTRAINT SHALL BE LOCATED WITHIN 2 FT OF A HANGER. THE HANGER CLOSEST TO THE RESTRAINT SHALL BE OF A TYPE THAT RESISTS UPWARD MOVEMENT OF A BRANCH LINE SUCH AS A SURGE CLIP.

SEISMIC CLEARANCE REQUIREMENTS

PROVIDE CLEARANCE AT ALL PIPING EXTENDING THROUGH WALLS, FLOORS, FOUNDATIONS. NO CLEARANCE REQUIRED AT GYPSUM BOARD OR EQUALLY FRANGIBLE CONSTRUCTION THAT IS NOT REQUIRED TO HAVE A FIRE RESISTANCE RATING.

NOMINAL PIPE SIZE		CORE DRILL HOLE OR PIPE SLEEVE SIZE	
INCH	MM	INCH	MM
1	25	3	80
1¼	32	4	100
1½	40	4	100
2	50	4	100
2½	65	6	150
3	80	6	150
4	100	8	200
6	150	10	250

AT CONTRACTORS OPTION FLEXIBLE COUPLINGS MAY BE INSTALLED WITHIN 12" OF THE WALL SURFACE ON EACH SIDE, OR WITHIN 12" ABOVE FLOOR AND 24" BELOW FLOOR, AND THE CLEARANCES NOTED ARE NOT REQUIRED.

FIRE CAULK HOLE AND PROVIDE SPLIT CHROME WALL PLATES AT ALL EXPOSED WALL LOCATIONS.

(NOTE THAT AT NON-RATED FRANGIBLE GYPSUM BOARD WALLS NO CLEARANCE IS REQUIRED)

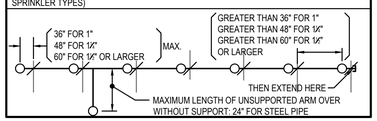
HANGER SPACING REQUIREMENTS

MAXIMUM DISTANCE BETWEEN HANGERS (FT-IN.) - N.F.P.A. #13

NOMINAL PIPE SIZE	¾"	1"	1¼"	1½"	2"	2½"	3"	4"	6"	8"
STEEL PIPE	N/A	12-0	12-0	15-0	15-0	15-0	15-0	15-0	15-0	15-0

NOTE:
TYPICAL HANGER SYMBOLS AS SHOWN ON PIPING PLAN MAY NOT REFLECT ACTUAL FIELD INSTALLATION. FINAL HANGER INSTALLATION SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF N.F.P.A. #13.

DISTANCE FROM SPRINKLER TO HANGER - N.F.P.A. #13 - MAX PRESSURES ≤ 100 PSI (ALL SPRINKLER TYPES)



SPRINKLER PIPE AND FITTINGS TABLE

MATERIAL NOTES
1. MATERIALS MAY BE OF DOMESTIC OR IMPORT ORIGIN.
2. SEE INDIVIDUAL NOTES ON PLANS FOR VARIATION IN SIZE, TYPE, FITTINGS, ETC.
3. AT THE CONTRACTOR'S OPTION, 1¼" - 2" PIPE MAY BE GROOVED BUT MUST REMAIN SCHEDULE 40.

PIPE SIZE	PIPE	FITTINGS AND OUTLETS
1" TO 2"	SCHEDULE 40	BLACK CLASS-125 CAST IRON (175 PSI RATED) OR BLACK CLASS-150 MALLEABLE IRON (300 PSI RATED) OR BLACK CLASS-300 DUCTILE IRON (300 PSI RATED) THREADED FITTINGS
2½" TO 6"	SCHEDULE 10	WELDED OUTLETS WITH ROLL GROOVED ENDS AND PAINTED DUCTILE IRON GROOVED FITTINGS (300 PSI RATED)

FIRE SPRINKLER LEGEND

NOTE: ALTERNATE SPRINKLER TEMPERATURES MAY BE NOTED NEXT TO SPRINKLER SYMBOLS I.E. INT = INTERMEDIATE TEMPERATURE; HIGH = HIGH TEMPERATURE)

SYMBOL	DESCRIPTION
	STANDARD SPRAY PENDENT SPRINKLER ON - DROP
	STANDARD SPRAY PENDENT SPRINKLER ON - LINE
	STANDARD SPRAY DRY PENDENT SPRINKLER
	STANDARD SPRAY UPRIGHT SPRINKLER ON - LINE
	STANDARD SPRAY UPRIGHT SPRINKLER ON - SPRIG
	STANDARD SPRAY SIDEWALL SPRINKLER
	STANDARD SPRAY SIDEWALL SPRINKLER
	EXISTING PENDENT SPRINKLER
	EXISTING UPRIGHT SPRINKLER
	LATERAL OR LONGITUDINAL SWAY BRACE
	COMBINATION LATERAL AND LONGITUDINAL SWAY BRACE
FS	FLOW SWITCH
TS	TAMPER SWITCH
OR	CHECK VALVE (GROOVED OR THREADED)
OR	BUTTERFLY VALVE (GROOVED OR THREADED)
OR	GLOBE VALVE
	HOSE VALVE
	ANGLE HOSE VALVE
H	HORN/STROBE ASSEMBLY
	FREE STANDING FIRE DEPARTMENT CONNECTION
X'-X"	PIPE CENTERLINE FROM FINISHED FLOOR
X	HYDRAULIC NODE POINT
X'-X"	CEILING HEIGHT
	RISER
'	CENTERLINE DISTANCE OF PIPE FROM DECK
	FLANGE
	GROOVED ELBOW UP
	GROOVED ELBOW DOWN
	GROOVED COUPLING
	SCREWED ELBOW UP
	SCREWED ELBOW DOWN
	HANGER SYMBOL - SEE DETAIL FOR TYPE
	HANGER SYMBOL - SEE DETAIL FOR TYPE
	HANGER SYMBOL - SEE DETAIL FOR TYPE
	HANGER SYMBOL - SEE DETAIL FOR TYPE
	HANGER SYMBOL - SEE DETAIL FOR TYPE
	SEISMIC RESTRAINT #1
	SEISMIC RESTRAINT #2
	NEW WET SPRINKLER PIPE
	EXISTING SPRINKLER PIPE
	DEMO SPRINKLER PIPE
	EXISTING UNDERGROUND WATER MAIN/FIRE MAIN
	1-HOUR FIRE BARRIER (SEE ARCHITECTURAL FOR DETAILS)
	2-HOUR FIRE BARRIER (SEE ARCHITECTURAL FOR DETAILS)
AFF	ABOVE FINISHED FLOOR
ATR	ALL THREAD ROD
A.S.	AUTOMATIC SPRINKLER
CIF	CUT IN FIELD
DN	DOWN
FG	FINISHED GRADE
GALV	GALVANIZED
GBE	GROOVE BOTH ENDS
GOE	GROOVE ONE END
GMI	GALVANIZED MALLEABLE IRON
NTS	NOT TO SCALE
OS&Y	OUTSIDE STEM & YOKE
RN	RISER NIPPLE
TBE	THREAD BOTH ENDS
TOE	THREAD ONE END
T&G	THREAD AND GROOVE
UON	UNLESS OTHERWISE NOTED
W/	WITH

JACKOLA ENGINEERING & ARCHITECTURE, P.C.
SINCE 1969
Engineering, Architecture, Surveying, Land Use Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

MONTANA
JASON R. ANDERSON
No. 11805PE
LICENSED PROFESSIONAL ENGINEER
12/15/2025
FOR PERMIT

REID HALL RENOVATION
MONTANA STATE UNIVERSITY
REID HALL,
BOZEMAN, MONTANA 59717
PPA#: 25-1214

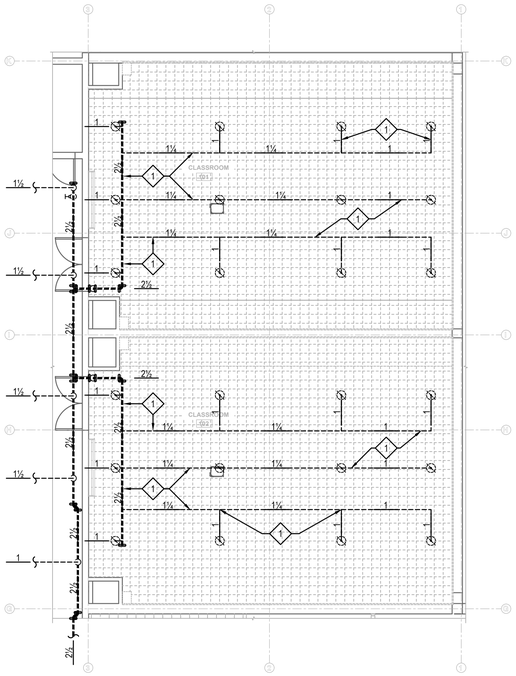
DRAWN: NSB CHECKED: JAA
DATE: 12/15/2025
REVISIONS:

GENERAL NOTES, DETAILS, AND LEGEND

FX001

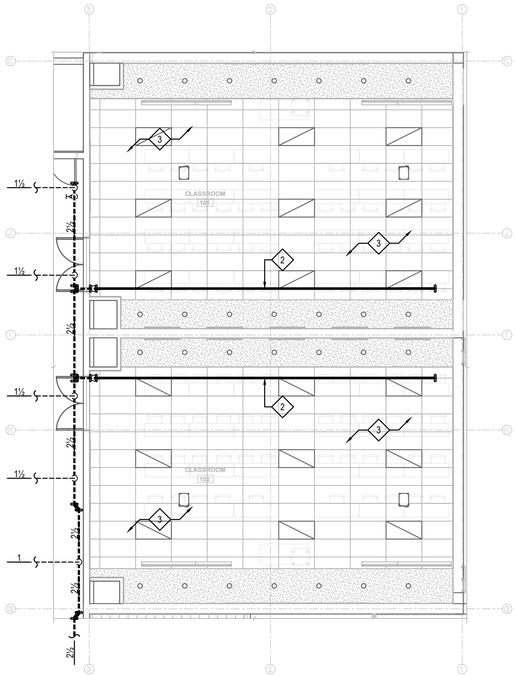
COFFMAN ENGINEERS
751 Osterman Drive
Suite 104
Bozeman, MT 59715
ph 406.582.1936
www.coffman.com

PROJECT # 250448



1 ROOM 101 & 102 FIRE SPRINKLER DEMO PLAN - LEVEL 1
SCALE: 1/8" = 1'-0"

NORTH



2 ROOM 101 & 102 FIRE SPRINKLER FLOOR PLAN - LEVEL 1
SCALE: 1/8" = 1'-0"

NORTH

GENERAL DEMOLITION NOTES

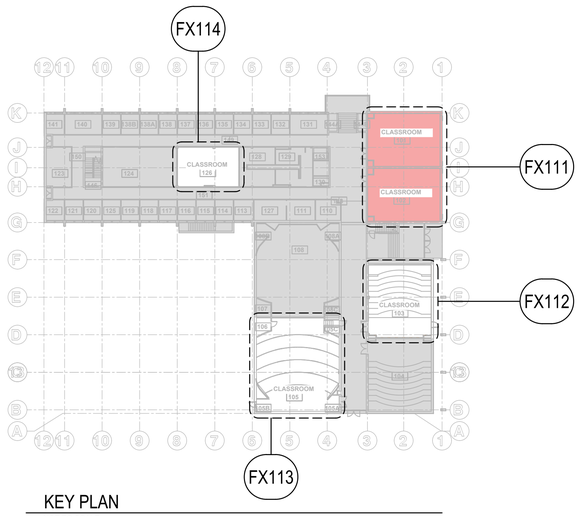
1. THE EXISTING FIRE SPRINKLER SYSTEM SHOWN IS BASED ON AS-BUILT DOCUMENTATION AND A NON-DESTRUCTIVE WALK THROUGH OF THE BUILDING. ALL COMPONENTS OF THE EXISTING FIRE SPRINKLER SYSTEM ARE NOT SHOWN ON THE PLANS. THE EXISTING COMPONENTS SHOWN ON THE PLANS MAY NOT BE SHOWN IN THE EXACT LOCATION OR CORRECT ORIENTATION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS.
2. THE REQUIRED DEMOLITION IS NOT LIMITED TO WHAT IS INDICATED ON THE PLANS ALONE, BUT SHALL INCLUDE ALL NECESSARY WORK INDICATED ELSEWHERE IN THE DRAWINGS AND SPECIFICATIONS TO ACCOMPLISH THE INTENT OF THE CONTRACT DOCUMENTS.
3. THE EXISTING WET PIPE FIRE SPRINKLER SYSTEM OUTSIDE OF THE AREA(S) OF WORK SHALL REMAIN U.O.N.
4. DEMOLISH THE EXISTING WET PIPE SPRINKLER SYSTEM AS INDICATED ON THE DRAWINGS IN THE AREA(S) OF WORK.

GENERAL FIRE SPRINKLER NOTES

1. THE FIRE SPRINKLER SYSTEM SHOWN IS CONCEPTUAL ONLY AND PROVIDED TO CONVEY DESIGN INTENT. THE CONTRACTOR SHALL PROVIDE A COMPLETE SPRINKLER SYSTEM IN THE AREA(S) OF WORK SHOWING ALL REQUIRED PIPING, OFFSETS, SPRINKLERS, RISERS, DROPS, HANGERS, BRACING, ETC. COORDINATE FINAL PIPE ROUTING AND SPRINKLER LOCATIONS WITH ALL OTHER TRADES AS REQUIRED. THE CONTRACTOR SHALL INSTALL THE SYSTEM IN ACCORDANCE WITH ALL APPLICABLE CODES, THE MANUFACTURER'S RECOMMENDATIONS, AND PER THE EQUIPMENT'S LISTING.
2. SEE ARCHITECTURAL PLANS FOR CEILING TYPES AND HEIGHTS.
3. PROVIDE SPRINKLER PROTECTION UNDER OBSTRUCTIONS OVER 4'-0" WIDE (TYPICAL).
4. SPRINKLERS SHALL BE INSTALLED IN THE CENTER OF TILE IN AREAS WITH 2'x2' SUSPENDED CEILING TILES. SPRINKLERS SHALL BE INSTALLED IN QUARTER POINTS OR IN THE CENTER OF TILE IN AREAS WITH 2'x4' SUSPENDED CEILING TILES.
5. WITHIN THE SCOPE OF WORK, PROVIDE WHITE RECESSED PENDENT SPRINKLERS IN ALL AREAS WITH FINISHED CEILINGS U.O.N. WITHIN THE SCOPE OF WORK, PROVIDE BRASS UPRIGHT SPRINKLERS IN ALL OPEN TO STRUCTURE AREAS U.O.N.
6. PROVIDE SPLIT CHROME WALL PLATES AT ALL EXPOSED WALL PENETRATIONS IN FINISHED ROOMS.
7. ALL GROOVED COUPLINGS SHALL BE ZERO FLEX/RIGID U.O.N AND/OR REQUIRED BY CODE.
8. EXISTING FIRE SPRINKLER SYSTEM PIPING, DENOTED:
9. NEW FIRE SPRINKLER SYSTEM PIPING, DENOTED:
10. ALL ROOMS WITHIN THE AREA OF WORK ARE CLASSIFIED AS LIGHT HAZARD OCCUPANCY (0.10 GPM/SQ FT OVER REMOTE AREA - 100 GPM HOSE) PER NFPA 13.

PLAN KEY NOTES (X)

1. DEMOLISH EXISTING PENDENT SPRINKLERS, PIPING, HANGERS, BRACING, ETC IN CLASSROOM.
2. NEW 2½" WET PIPE SPRINKLER MAIN TO SERVE CLASSROOM.
3. PROVIDE AUTOMATIC SPRINKLER PROTECTION THROUGHOUT THE RENOVATED CLASSROOM AS REQUIRED FOR THE NOTED HAZARD OCCUPANCY. COORDINATE NEW PIPE ROUTING AND FINAL SPRINKLER LOCATIONS WITH ALL OTHER TRADES AS REQUIRED.



KEY PLAN
NOT TO SCALE

GRAPHIC SCALE : 1/8" = 1'-0"
0' 4' 8' 16' 24'

COFFMAN ENGINEERS
751 Osterman Drive
Suite 104
Bozeman, MT 59715
ph 406.582.1936
www.coffman.com

JACKOLA ENGINEERING & ARCHITECTURE PLLC
SINCE 1969
Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

MONTANA
JASON A. ANDERSON
No. 11805PE
LICENSED PROFESSIONAL ENGINEER
12/15/2025
FOR PERMIT

REID HALL RENOVATION
MONTANA STATE UNIVERSITY

REID HALL,
BOZEMAN, MONTANA 59717
PPA#: 25-1214

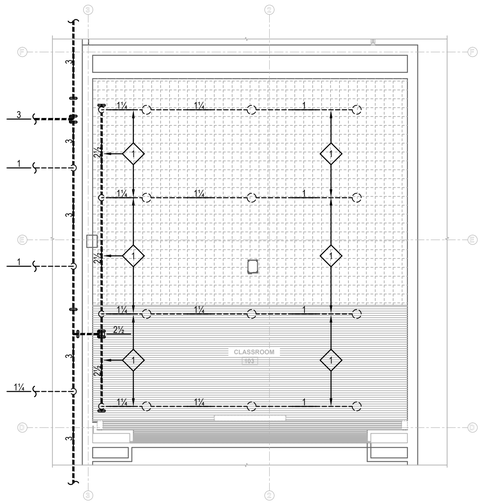
DRAWN: NSB CHECKED: JAA
DATE: 12/15/2025

REVISIONS:

ROOM 101 & 102 FIRE SPRINKLER FLOOR PLAN

FX111

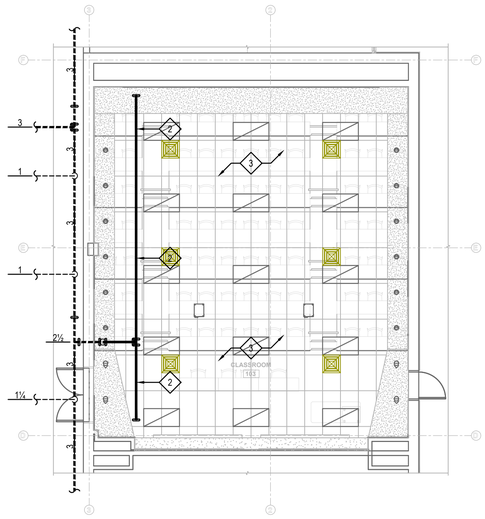
PROJECT #:250488



1 ROOM 103 FIRE SPRINKLER DEMO PLAN - LEVEL 1

SCALE: 1/8" = 1'-0"

NORTH



2 ROOM 103 FIRE SPRINKLER FLOOR PLAN - LEVEL 1

SCALE: 1/8" = 1'-0"

NORTH

GENERAL DEMOLITION NOTES

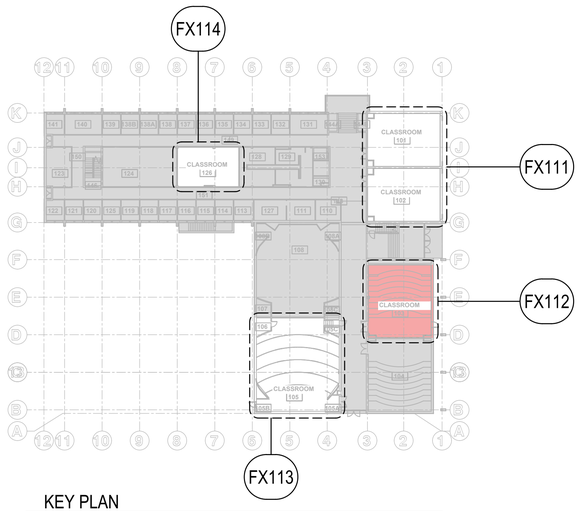
1. THE EXISTING FIRE SPRINKLER SYSTEM SHOWN IS BASED ON AS-BUILT DOCUMENTATION AND A NON-DESTRUCTIVE WALK THROUGH OF THE BUILDING. ALL COMPONENTS OF THE EXISTING FIRE SPRINKLER SYSTEM ARE NOT SHOWN ON THE PLANS. THE EXISTING COMPONENTS SHOWN ON THE PLANS MAY NOT BE SHOWN IN THE EXACT LOCATION OR CORRECT ORIENTATION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS.
2. THE REQUIRED DEMOLITION IS NOT LIMITED TO WHAT IS INDICATED ON THE PLANS ALONE, BUT SHALL INCLUDE ALL NECESSARY WORK INDICATED ELSEWHERE IN THE DRAWINGS AND SPECIFICATIONS TO ACCOMPLISH THE INTENT OF THE CONTRACT DOCUMENTS.
3. THE EXISTING WET PIPE FIRE SPRINKLER SYSTEM OUTSIDE OF THE AREA(S) OF WORK SHALL REMAIN U.O.N.
4. DEMOLISH THE EXISTING WET PIPE SPRINKLER SYSTEM AS INDICATED ON THE DRAWINGS IN THE AREA(S) OF WORK.

GENERAL FIRE SPRINKLER NOTES

1. THE FIRE SPRINKLER SYSTEM SHOWN IS CONCEPTUAL ONLY AND PROVIDED TO CONVEY DESIGN INTENT. THE CONTRACTOR SHALL PROVIDE A COMPLETE SPRINKLER SYSTEM IN THE AREA(S) OF WORK SHOWING ALL REQUIRED PIPING, OFFSETS, SPRINKLERS, RISERS, DROPS, HANGERS, BRACING, ETC. COORDINATE FINAL PIPE ROUTING AND SPRINKLER LOCATIONS WITH ALL OTHER TRADES AS REQUIRED. THE CONTRACTOR SHALL INSTALL THE SYSTEM IN ACCORDANCE WITH ALL APPLICABLE CODES, THE MANUFACTURER'S RECOMMENDATIONS, AND PER THE EQUIPMENT'S LISTING.
2. SEE ARCHITECTURAL PLANS FOR CEILING TYPES AND HEIGHTS.
3. PROVIDE SPRINKLER PROTECTION UNDER OBSTRUCTIONS OVER 4'-0" WIDE (TYPICAL).
4. SPRINKLERS SHALL BE INSTALLED IN THE CENTER OF TILE IN AREAS WITH 2'x2' SUSPENDED CEILING TILES. SPRINKLERS SHALL BE INSTALLED IN QUARTER POINTS OR IN THE CENTER OF TILE IN AREAS WITH 2'x4' SUSPENDED CEILING TILES.
5. WITHIN THE SCOPE OF WORK, PROVIDE WHITE RECESSED PENDENT SPRINKLERS IN ALL AREAS WITH FINISHED CEILINGS U.O.N. WITHIN THE SCOPE OF WORK, PROVIDE BRASS UPRIGHT SPRINKLERS IN ALL OPEN TO STRUCTURE AREAS U.O.N.
6. PROVIDE SPLIT CHROME WALL PLATES AT ALL EXPOSED WALL PENETRATIONS IN FINISHED ROOMS.
7. ALL GROOVED COUPLINGS SHALL BE ZERO FLEX/RIGID U.O.N AND/OR REQUIRED BY CODE.
8. EXISTING FIRE SPRINKLER SYSTEM PIPING, DENOTED:
9. NEW FIRE SPRINKLER SYSTEM PIPING, DENOTED:
10. ALL ROOMS WITHIN THE AREA OF WORK ARE CLASSIFIED AS LIGHT HAZARD OCCUPANCY (0.10 GPM/SQ FT OVER REMOTE AREA - 100 GPM HOSE) PER NFPA 13.

PLAN KEY NOTES ◇X

1. DEMOLISH EXISTING UPRIGHT SPRINKLERS, PIPING, HANGERS, BRACING, ETC IN CLASSROOM.
2. NEW 2½" WET PIPE SPRINKLER MAIN TO SERVE CLASSROOM.
3. PROVIDE AUTOMATIC SPRINKLER PROTECTION THROUGHOUT THE RENOVATED CLASSROOM AS REQUIRED FOR THE NOTED HAZARD OCCUPANCY. COORDINATE NEW PIPE ROUTING AND FINAL SPRINKLER LOCATIONS WITH ALL OTHER TRADES AS REQUIRED.



KEY PLAN

NOT TO SCALE

GRAPHIC SCALE : 1/8" = 1'-0"

0' 4' 8' 16' 24'

COFFMAN ENGINEERS
751 Osterman Drive
Suite 104
Bozeman, MT 59715
ph 406.582.1936
www.coffman.com

SINCE 1969 P.C. JACKOLA Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

STATE OF MONTANA
JASON A. ANDERSON
No. 11805PE
LICENSED PROFESSIONAL ENGINEER

12/15/2025

FOR PERMIT

REID HALL RENOVATION
MONTANA STATE UNIVERSITY

REID HALL,
BOZEMAN, MONTANA 59717
PPA#: 25-1214

DRAWN: NSB CHECKED: JAA

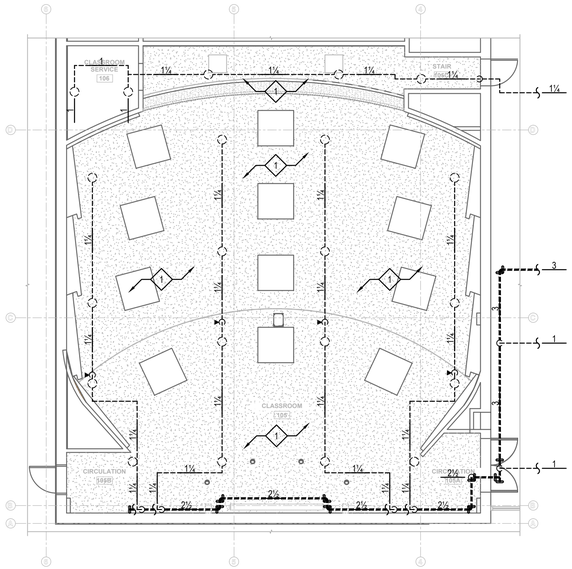
DATE: 12/15/2025

REVISIONS:

ROOM 103 FIRE SPRINKLER FLOOR PLAN

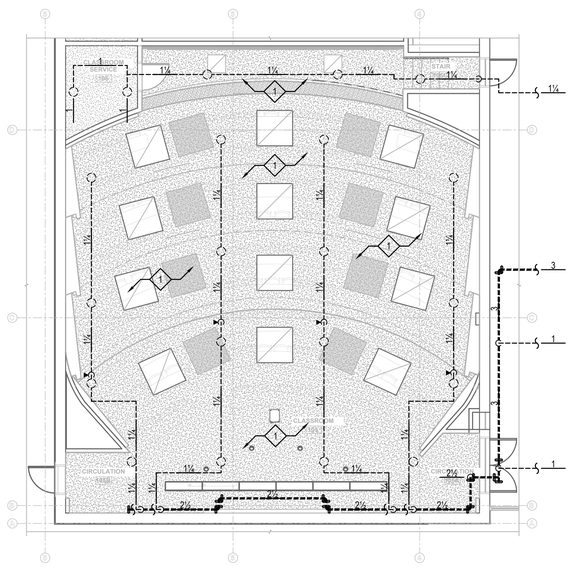
FX112

PROJECT #:25048



1 ROOM 105 FIRE SPRINKLER DEMO PLAN - LEVEL 1
SCALE: 1/8" = 1'-0"

NORTH



2 ROOM 105 FIRE SPRINKLER FLOOR PLAN - LEVEL 1
SCALE: 1/8" = 1'-0"

NORTH

GENERAL DEMOLITION NOTES

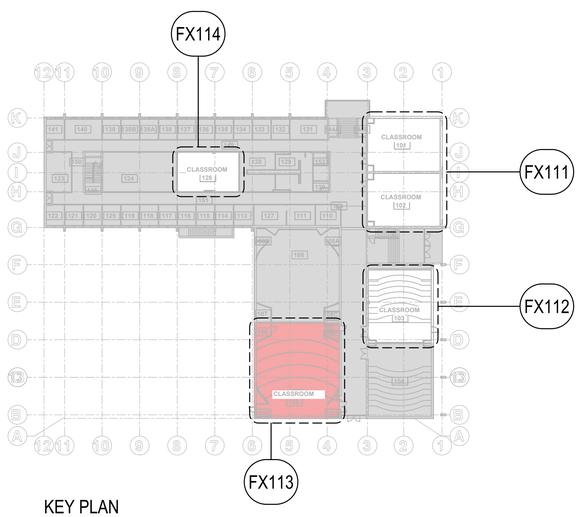
1. THE EXISTING FIRE SPRINKLER SYSTEM SHOWN IS BASED ON AS-BUILT DOCUMENTATION AND A NON-DESTRUCTIVE WALK THROUGH OF THE BUILDING. ALL COMPONENTS OF THE EXISTING FIRE SPRINKLER SYSTEM ARE NOT SHOWN ON THE PLANS. THE EXISTING COMPONENTS SHOWN ON THE PLANS MAY NOT BE SHOWN IN THE EXACT LOCATION OR CORRECT ORIENTATION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS.
2. THE REQUIRED DEMOLITION IS NOT LIMITED TO WHAT IS INDICATED ON THE PLANS ALONE, BUT SHALL INCLUDE ALL NECESSARY WORK INDICATED ELSEWHERE IN THE DRAWINGS AND SPECIFICATIONS TO ACCOMPLISH THE INTENT OF THE CONTRACT DOCUMENTS.
3. THE EXISTING WET PIPE FIRE SPRINKLER SYSTEM OUTSIDE OF THE AREA(S) OF WORK SHALL REMAIN U.O.N.
4. DEMOLISH THE EXISTING WET PIPE SPRINKLER SYSTEM AS INDICATED ON THE DRAWINGS IN THE AREA(S) OF WORK.

GENERAL FIRE SPRINKLER NOTES

1. THE FIRE SPRINKLER SYSTEM SHOWN IS CONCEPTUAL ONLY AND PROVIDED TO CONVEY DESIGN INTENT. THE CONTRACTOR SHALL PROVIDE A COMPLETE SPRINKLER SYSTEM IN THE AREA(S) OF WORK SHOWING ALL REQUIRED PIPING, OFFSETS, SPRINKLERS, RISERS, DROPS, HANGERS, BRACING, ETC. COORDINATE FINAL PIPE ROUTING AND SPRINKLER LOCATIONS WITH ALL OTHER TRADES AS REQUIRED. THE CONTRACTOR SHALL INSTALL THE SYSTEM IN ACCORDANCE WITH ALL APPLICABLE CODES, THE MANUFACTURER'S RECOMMENDATIONS, AND PER THE EQUIPMENT'S LISTING.
2. SEE ARCHITECTURAL PLANS FOR CEILING TYPES AND HEIGHTS.
3. PROVIDE SPRINKLER PROTECTION UNDER OBSTRUCTIONS OVER 4'-0" WIDE (TYPICAL).
4. SPRINKLERS SHALL BE INSTALLED IN THE CENTER OF TILE IN AREAS WITH 2'x2' SUSPENDED CEILING TILES. SPRINKLERS SHALL BE INSTALLED IN QUARTER POINTS OR IN THE CENTER OF TILE IN AREAS WITH 2'x4' SUSPENDED CEILING TILES.
5. WITHIN THE SCOPE OF WORK, PROVIDE WHITE RECESSED PENDENT SPRINKLERS IN ALL AREAS WITH FINISHED CEILINGS U.O.N. WITHIN THE SCOPE OF WORK, PROVIDE BRASS UPRIGHT SPRINKLERS IN ALL OPEN TO STRUCTURE AREAS U.O.N.
6. PROVIDE SPLIT CHROME WALL PLATES AT ALL EXPOSED WALL PENETRATIONS IN FINISHED ROOMS.
7. ALL GROOVED COUPLINGS SHALL BE ZERO FLEX/RIGID U.O.N AND/OR REQUIRED BY CODE.
8. EXISTING FIRE SPRINKLER SYSTEM PIPING, DENOTED:
9. NEW FIRE SPRINKLER SYSTEM PIPING, DENOTED:
10. ALL ROOMS WITHIN THE AREA OF WORK ARE CLASSIFIED AS LIGHT HAZARD OCCUPANCY (0.10 GPM/SQ FT OVER REMOTE AREA - 100 GPM HOSE) PER NFPA 13.

PLAN KEY NOTES (X)

1. EXISTING WET PIPE SPRINKLER SYSTEM TO REMAIN THIS ROOM.



KEY PLAN
NOT TO SCALE

GRAPHIC SCALE : 1/8" = 1'-0"
0' 4' 8' 16' 24'

COFFMAN ENGINEERS
751 Osterman Drive
Suite 104
Bozeman, MT 59715
ph 406.582.1936
www.coffman.com

SINCE 1969 P.C. JACKOLA Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

MONTANA
JASON A. ANDERSON
No. 11805PE
LICENSED PROFESSIONAL ENGINEER
12/15/2025
FOR PERMIT

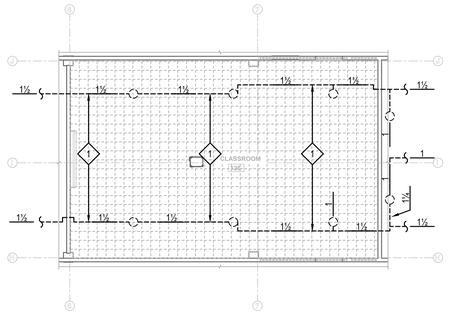
REID HALL RENOVATION
MONTANA STATE UNIVERSITY
REID HALL,
BOZEMAN, MONTANA 59717
PPA#: 25-1214

DRAWN: NSB CHECKED: JAA
DATE: 12/15/2025
REVISIONS:

ROOM 105 FIRE SPRINKLER FLOOR PLAN

FX113

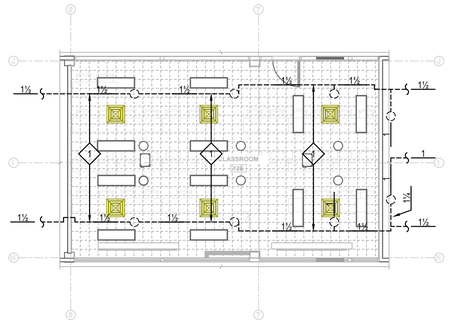
PROJECT # 250488



1 ROOM 126 FIRE SPRINKLER DEMO PLAN - LEVEL 1

SCALE: 1/8" = 1'-0"

NORTH



2 ROOM 126 FIRE SPRINKLER FLOOR PLAN - LEVEL 1

SCALE: 1/8" = 1'-0"

NORTH

GENERAL DEMOLITION NOTES

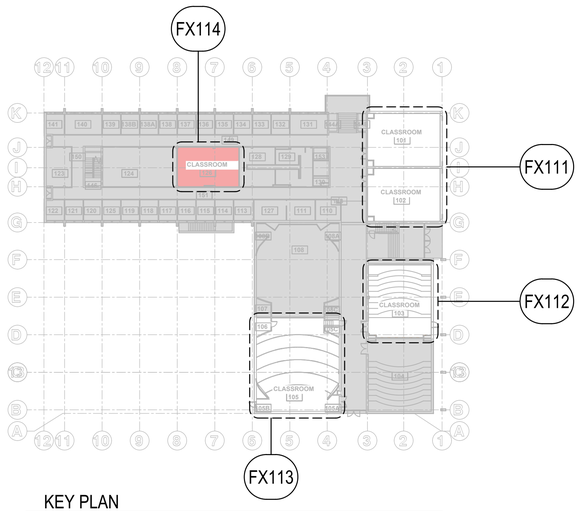
1. THE EXISTING FIRE SPRINKLER SYSTEM SHOWN IS BASED ON AS-BUILT DOCUMENTATION AND A NON-DESTRUCTIVE WALK THROUGH OF THE BUILDING. ALL COMPONENTS OF THE EXISTING FIRE SPRINKLER SYSTEM ARE NOT SHOWN ON THE PLANS. THE EXISTING COMPONENTS SHOWN ON THE PLANS MAY NOT BE SHOWN IN THE EXACT LOCATION OR CORRECT ORIENTATION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS.
2. THE REQUIRED DEMOLITION IS NOT LIMITED TO WHAT IS INDICATED ON THE PLANS ALONE, BUT SHALL INCLUDE ALL NECESSARY WORK INDICATED ELSEWHERE IN THE DRAWINGS AND SPECIFICATIONS TO ACCOMPLISH THE INTENT OF THE CONTRACT DOCUMENTS.
3. THE EXISTING WET PIPE FIRE SPRINKLER SYSTEM OUTSIDE OF THE AREA(S) OF WORK SHALL REMAIN U.O.N.
4. DEMOLISH THE EXISTING WET PIPE SPRINKLER SYSTEM AS INDICATED ON THE DRAWINGS IN THE AREA(S) OF WORK.

GENERAL FIRE SPRINKLER NOTES

1. THE FIRE SPRINKLER SYSTEM SHOWN IS CONCEPTUAL ONLY AND PROVIDED TO CONVEY DESIGN INTENT. THE CONTRACTOR SHALL PROVIDE A COMPLETE SPRINKLER SYSTEM IN THE AREA(S) OF WORK SHOWING ALL REQUIRED PIPING, OFFSETS, SPRINKLERS, RISERS, DROPS, HANGERS, BRACING, ETC. COORDINATE FINAL PIPE ROUTING AND SPRINKLER LOCATIONS WITH ALL OTHER TRADES AS REQUIRED. THE CONTRACTOR SHALL INSTALL THE SYSTEM IN ACCORDANCE WITH ALL APPLICABLE CODES, THE MANUFACTURER'S RECOMMENDATIONS, AND PER THE EQUIPMENT'S LISTING.
2. SEE ARCHITECTURAL PLANS FOR CEILING TYPES AND HEIGHTS.
3. PROVIDE SPRINKLER PROTECTION UNDER OBSTRUCTIONS OVER 4'-0" WIDE (TYPICAL).
4. SPRINKLERS SHALL BE INSTALLED IN THE CENTER OF TILE IN AREAS WITH 2'x2' SUSPENDED CEILING TILES. SPRINKLERS SHALL BE INSTALLED IN QUARTER POINTS OR IN THE CENTER OF TILE IN AREAS WITH 2'x4' SUSPENDED CEILING TILES.
5. WITHIN THE SCOPE OF WORK, PROVIDE WHITE RECESSED PENDENT SPRINKLERS IN ALL AREAS WITH FINISHED CEILINGS U.O.N. WITHIN THE SCOPE OF WORK, PROVIDE BRASS UPRIGHT SPRINKLERS IN ALL OPEN TO STRUCTURE AREAS U.O.N.
6. PROVIDE SPLIT CHROME WALL PLATES AT ALL EXPOSED WALL PENETRATIONS IN FINISHED ROOMS.
7. ALL GROOVED COUPLINGS SHALL BE ZERO FLEX/RIGID U.O.N AND/OR REQUIRED BY CODE.
8. EXISTING FIRE SPRINKLER SYSTEM PIPING, DENOTED:
9. NEW FIRE SPRINKLER SYSTEM PIPING, DENOTED:
10. ALL ROOMS WITHIN THE AREA OF WORK ARE CLASSIFIED AS LIGHT HAZARD OCCUPANCY (0.10 GPM/SQ FT OVER REMOTE AREA - 100 GPM HOSE) PER NFPA 13.

PLAN KEY NOTES (X)

1. EXISTING WET PIPE SPRINKLER SYSTEM TO REMAIN THIS ROOM.



KEY PLAN

NOT TO SCALE

GRAPHIC SCALE : 1/8" = 1'-0"

0' 4' 8' 16' 24'

COFFMAN ENGINEERS
751 Osterman Drive
Suite 104
Bozeman, MT 59715
ph 406.582.1936
www.coffman.com

SINCE 1969 P.C. JACKOLA Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

STATE OF MONTANA
JASON A. ANDERSON
No. 11805PE
LICENSED PROFESSIONAL ENGINEER
12/15/2025
FOR PERMIT

REID HALL RENOVATION
MONTANA STATE UNIVERSITY

REID HALL,
BOZEMAN, MONTANA 59717
PPA#: 25-1214

DRAWN: NSB CHECKED: JAA

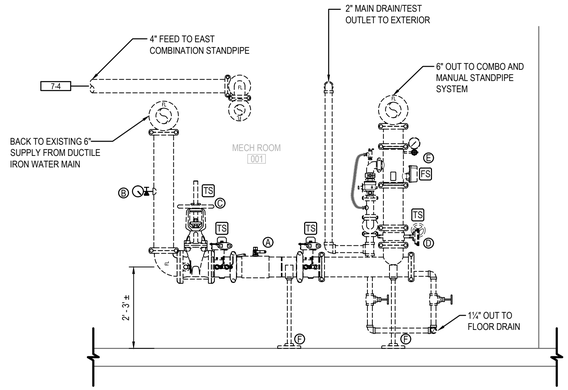
DATE: 12/15/2025

REVISIONS:

ROOM 126 FIRE SPRINKLER FLOOR PLAN

FX114

PROJECT #:25048



1 EXISTING FIRE PROTECTION RISER DETAIL

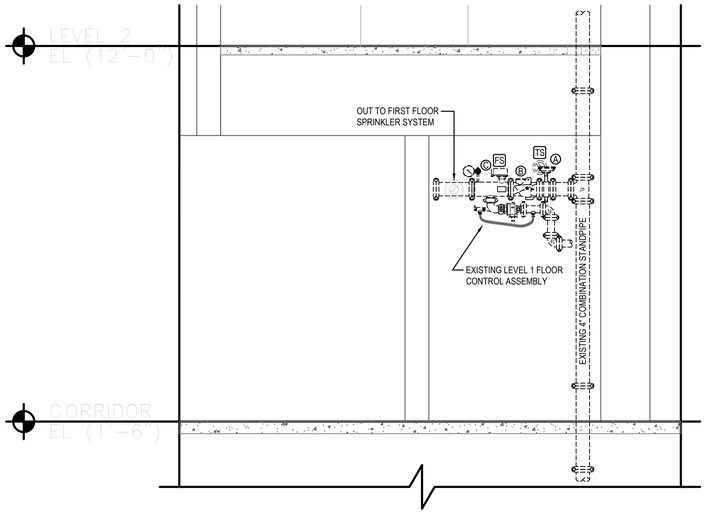
SCALE: 1/2" = 1'-0"

EXISTING RISER LEGEND ⊗

A. EXISTING 6" DOUBLE CHECK VALVE ASSEMBLY WITH GROOVED BUTTERFLY VALVES AND BUILT-IN TAMPER SWITCHES
B. EXISTING "GAUGE KIT"
C. EXISTING 6" OS&Y CONTROL VALVE WITH TAMPER SWITCH
D. EXISTING 6" GROOVED BUTTERFLY VALVE WITH BUILT-IN TAMPER SWITCH
E. EXISTING 6" RISER MANIFOLD WITH FLOW SWITCH, TEST AND DRAIN VALVE, PRESSURE GAUGE AND PRESSURE RELIEF VALVE
F. EXISTING PIPESTAND

GENERAL NOTES

1. THE EXISTING FIRE SPRINKLER SYSTEM SHOWN IS BASED ON AS-BUILT DOCUMENTATION AND A NON-DESTRUCTIVE WALK THROUGH OF THE BUILDING. ALL COMPONENTS OF THE EXISTING FIRE SPRINKLER SYSTEM ARE NOT SHOWN ON THE PLANS. THE EXISTING COMPONENTS SHOWN ON THE PLANS MAY NOT BE SHOWN IN THE EXACT LOCATION OR CORRECT ORIENTATION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS.
2. THE STANDPIPE SYSTEM IS EXISTING AND SHOWN FOR REFERENCE ONLY. NO WORK ON THE EXISTING STANDPIPE SYSTEM UNLESS OTHERWISE NOTED.
3. EXISTING FIRE SPRINKLER PIPING, DENOTED: [dashed]



2 EXISTING COMBINATION STANDPIPE DETAIL

SCALE: 1/2" = 1'-0"

EXISTING STANDPIPE LEGEND ⊗

A. EXISTING 4" GROOVED BUTTERFLY VALVE WITH BUILT-IN TAMPER SWITCH
B. EXISTING 4" GROOVED CHECK VALVE
C. EXISTING 4" RISER MANIFOLD WITH FLOW SWITCH, TEST AND DRAIN VALVE, PRESSURE GAUGE AND PRESSURE RELIEF VALVE

GRAPHIC SCALE : 1/2" = 1'-0"

0' 1" 2' 4' 6'

COFFMAN ENGINEERS
751 Osterman Drive
Suite 104
Bozeman, MT 59715
ph 406.582.1936
www.coffman.com

JACKOLA ENGINEERING & ARCHITECTURE, P.C. SINCE 1969
Engineering, Architecture, Surveying, Land Use, Planning
KALISPELL 406-755-3208 | BOZEMAN 406-586-0707 | VANCOUVER 360-852-8746
info@jackola.com jackola.com

MONTANA
JASON A. ANDERSON
No. 11805PE
LICENSED PROFESSIONAL ENGINEER

12/15/2025
FOR PERMIT

REID HALL RENOVATION
MONTANA STATE UNIVERSITY

REID HALL,
BOZEMAN, MONTANA 59717
PPA#: 25-1214

DRAWN: NSB CHECKED: JAA

DATE: 12/15/2025

REVISIONS:

EXISTING FIRE SPRINKLER DETAILS

FX301

PROJECT # 250488